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REPORT

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Commission on Land Colonization and Rural Credits

OF THE

State of California

NOVEMBER 29, 1916

CALIFORNIA STATE PRINTING OFFICE
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LETTER OF TRANSMITTAL

November 29, 1916.

To His Excellency, Hiram W. Johnson, *Governor,*
State Capitol, Sacramento, California:

Your commission appointed to "investigate and consider the question of land colonization and the various forms of land banks, cooperative credit unions, and other rural credit systems adopted or proposed in this country or elsewhere, with especial view to the needs of the rural communities of this state," has the honor to transmit herewith its report.

Respectfully,

ELWOOD MEAD, *Chairman.*
HARRIS WEINSTOCK.
DAVID P. BARROWS.
MORTIMER FLEISHHACKER.
CHESTER ROWELL.

DAVID N. MORGAN, *Secretary.*

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REPORT OF THE COMMISSION ON LAND COLONIZATION AND RURAL CREDITS

INTRODUCTION

Investigation provided for

The legislature of California, in 1915, passed a law providing for a commission to *"Investigate and consider the question of land colonization, and the various forms of land banks, cooperative credit unions, and other rural credit systems adopted or proposed in this country or elsewhere, with especial view to the needs of the rural communities of this state."* In accordance with this measure the following report has been prepared.

Importance of land settlement in America

Within the last five years questions of land tenure and land settlement have assumed a hitherto unthought of importance in the United States. The causes for this are the disappearance of free, fertile public land; the rising prices of privately-owned farm lands; the increase in tenant farming and a clearer recognition of its dangers; and the increasing attractions of city life which threaten the social impairment of rural communities by causing young people to leave the farms.

In other countries

Some of the most enlightened nations of the world have gone far toward solving the problems created by such undesirable conditions by the adoption of new attitudes on the part of the government towards land ownership and land settlement. In such countries the state has taken an active part in subdividing large estates and in creating conditions which will enable farm laborers and farmers of small capital to own their homes. They have adopted this policy because experience has shown that nonresident ownership and tenant farming are politically dangerous and socially undesirable; that ignorant and nomadic farm labor is bad; and that the balance between the growth of city and country can be maintained only through creating rural conditions which will make the farm as attractive as the office or factory for men and women of character and intelligence.

No state land settlement policy in California

The state of California has had no state land settlement policy. The subdivision of land for settlers, the character of settlers sought, and the kind of agriculture created, as well as the conditions of purchase, have all been left to unregulated private enterprise. There has been no public control over the selection of colonists to insure that they would be effective agents in rural development. There has been no public scrutiny of soil and conditions of purchase to render it certain that colonists would find an opportunity here rather than a temptation.

The task of this commission has been to study the methods and the results of private colonization in California in recent years, and to compare these with what is being accomplished in countries where land settlement is being carried out under state aid and direction. In gathering data regarding local development, the endeavor has been to get as much first-hand information as possible. Statements have been taken from a great many settlers in nearly all the sections of the state where colonization has been active in recent years. Conferences have been held with men active in colonization matters, and with commercial bodies interested in the results of settlement. It is believed that the information gathered is sufficiently authentic and extensive to enable us and the public to reach definite conclusions.

Purpose: study methods and results of private colonization

In this report the results of the investigations have been arranged under five heads.

(1) **Conditions in California.**
(2) **The methods of land settlement enterprises and the conditions of settlers in colonies recently established.**
(3) **The problems of tenantry and farm labor.**
(4) **Methods and policies of other countries.**
(5) **Conclusions and recommendations.**

PART I

CONDITIONS IN CALIFORNIA

ARRESTED RURAL DEVELOPMENT

Few settlers coming to California; many have left

The state has an immense area of fertile and unpeopled land. Only eleven million acres out of the twenty-eight million acres of farm land are being cultivated. However, comparatively few settlers are coming here, and many who came in recent years have left. Costly advertising and still more costly personal solicitations have not served to attract colonists. The result is that progress in the country is not keeping pace with progress in the city. During five years, from 1910 to 1915, the gain in the population of California cities and towns was three times the gain of the country.

Causes of arrested development

The principal causes for this arrested development seem to be high prices of land, high interest rates, and short terms of payment given in colonization contracts. These make it practically impossible to earn the money required to pay for a farm out of the soil in the time usually given. Many complain, moreover, that opportunities have been so exaggerated and the expenses of developing a farm so minimized as to induce settlers to undertake what on trial has proved to be impossible.

More settlers and subdivision of large tracts the cure for arrested development

It is to the interest of the whole state that its fertile lands should be cultivated and that active colonization should be promoted. The state now buys a large part of its meat and many other farm products abroad. Increased production would lessen the cost of living and keep at home money now sent to other sections to pay for food products. Moreover, great properties, owned by non-residents, are being cultivated by tenants or by nomadic and unsatisfactory hired labor. These great properties ought to be subdivided and cultivated by residents. From statistics furnished by C. L. Seavey, tax commissioner, it appears that 310 landed proprietors own over four million acres of land suited to intensive cultivation and capable of supporting a dense population. This would make 100,000 forty-acre farms. One firm owns nearly one million acres; one railroad owns 500,000 acres. In Kern County four companies own over 1,000,000 acres, or more than half the land in private ownership. The Kern County Land Company alone owns 356,000 acres. In Merced County Miller & Lux own 245,000 acres. The evils of such ownership are every year becoming more apparent. We have at one end of the social scale a few rich men who as a rule do not live on their estates, and at the other end either a body of shifting farm laborers or a farm tenantry made up largely of aliens, who take small interest in the progress of the community. Political stability, the best results in agriculture, and satisfactory social conditions require that this inheritance from a Mexican land system and former land laws of the United States be abolished.

PUBLIC HEARINGS OF THE COMMISSION

The Commission on Land Colonization began its investigations in 1915 with a series of public hearings at Sacramento, Willows, Stockton, San Francisco, Fresno, Los Angeles, and El Centro. At these hearings much attention was given to the need for a better system of rural credits as the Federal Farm Loan Act had not then been enacted.

Conclusions drawn from first-hand knowledge

The meetings were well attended. Valuable first-hand knowledge, based on personal experience, was furnished by landowners, settlers, public officials, bankers, and representatives of commercial organizations. There was a general agreement that settlers were finding it difficult to meet their payments on land and that colonization would be easier and safer if longer periods of time for payments and lower rates of interest could be secured. The testimony showed that the cost of preparing land for cultivation, especially in the irrigated districts, is more than has been recognized, and that, because of this, it is impossible for settlers to borrow money to equip farms properly for intensive cultivation.

THE FEDERAL FARM LOAN ACT

Farm Loan Act about to be put in force

While this investigation was in progress, congress passed the "Federal Farm Loan Act," which will give farmers who own land as favorable conditions for borrowing money as could be expected under a state law. A board which has been appointed to administer the federal act is arranging to begin business in the near future. Since nothing could be gained either in time, conditions of payment, or in rates of interest by the enactment of a state law, it seemed desirable that our future investigations should deal mainly with methods and policies of land settlement.

But separate credit system must be provided in California

The benefits of the Federal Farm Loan Act are, however, restricted to farmers who can give first mortgage security on land worth double the amount of the loan. It is generally conceded that in order to enable tenant farmers to become farm owners, or in order to give adequate assistance to colonists of small capital, a separate credit system based in some measure on the character of the borrower must be provided. A federal measure known as the Crosser Bill, designed to finance settlers on public land, is now pending in congress. But this will not help to colonize private land in California. On the contrary, it will be an obstacle to colonization here, through creating more favorable opportunities elsewhere. It seemed necessary, therefore, that this investigation give considerable attention to the amount of money needed by settlers; the time required to earn that money by farming; the terms and conditions under which land is sold to settlers here; and the terms and conditions under which land is sold in countries in which a state system of land settlement has been in operation long enough for the benefits to be manifest.

PART II

METHODS OF LAND SETTLEMENT ENTERPRISES AND EXPERIENCES OF SETTLERS

STUDY OF TYPICAL COLONIES

The colonies studied

The public hearings of the commission were followed by a study of conditions in what were regarded as typical colonies. Settlers in these were seen on their farms. Data were procured from land selling agencies and commercial bodies, and a number of special investigators visited the following colonies or sections and studied conditions in them:

Colony or project	County
Atascadero	San Luis Obispo
Carmichael	Sacramento
Chowchilla	Madera
Clay	Sacramento
Clovis	Fresno
California Traction Colonies	Sacramento and San Joaquin
Fairmead	Madera
Fontana Subdivision	San Bernardino
Kerman	Fresno
Imperial Valley	Imperial
Laguna de Tache	Fresno
Laton	Fresno
Lemoore (north of, on "island")	Fresno
Little Landers Colonies	San Diego, Los Angeles, and Alameda
Los Molinos	Tehama
Merced	Merced
Modesto	Stanislaus
Montague	Siskiyou
Oakdale Irrigation District	Stanislaus
Orland	Glenn
Patterson	Stanislaus
Rio Linda	Sacramento
Placer County Fruit Belt	Placer
Paul Rossier Colony	Nevada
Shafter	Kern
Turlock Irrigation District	Stanislaus
Van Nuys	Los Angeles
Wasco	Kern
Willows (Sacramento Valley Irrigation Company)	Glenn and Colusa
Winton	Merced
Yuba City	Yuba
Delta Lands	San Joaquin

Cooperation of Commonwealth Club

In its studies the commission has had the valuable cooperation and aid of the Commonwealth Club of California. Recognizing the economic significance of land settlement, the club set aside $1,000 to help meet the expenses of these studies. A special section of the club has given much attention to the subject. Three members, Messrs. Frank Adams, D. N. Morgan and Elwood Mead, were made a special committee to direct the investigation on behalf of the Commonwealth Club; and Messrs. A. L. Cowell, Edwin E. Cox, R. L. Adams and M. S. Wildman have carried on special inquiries and submitted reports, which are referred to later.

Aid by students

Fifteen students of the University of California, either graduates or members of the senior class, have aided in field studies. Many of these young men had been raised on California farms and nearly all had had farming experience. They were well equipped, therefore, to aid in gathering information and in interpreting its significance.

Settlers' statements supplemented by study of conditions

It has been the practice, followed in nearly all instances, to have the settlers' statements supplemented by a study of conditions in the colonies, either by a member of the commission or by some one else having experience and maturity of judgment to prevent the publication of anything misleading or incorrect. One or two of the special reports made for the commission have been incorporated with ours, because of the side lights they throw on some of the special problems of colonization and rural development.

The colonies or sections included are believed to be fairly typical. The settlers' experiences represent on an average the methods and the results of recent colonization.

Typical settlers' statements

In order to secure uniformity in statements and to be able to compare results in different sections, the commission prepared a form of inquiry concerning the essential facts of the settlers' operation during the developing period. A copy of one of these statements is inserted to show their character.

STATEMENT OF SETTLER.

For information of Cooperative Land Settlement Investigations being jointly conducted by the Commonwealth Club of California, the California State Commission on Rural Credits and Land Colonization, and the University of California.

Name ———————— ———————— Post office ————————
Age *47* Year of settlement *1912*
Occupation prior to purchasing farm *Farming—Minnesota*
If married, number in family, with ages of children *2 children aged 17 and 20*
Area in farm, acres *20* Area cultivated, acres *20* Area cultivable, acres____
Capital at time of purchase: Cash *$7,000* Equipment________
Real estate $________ Other capital $________ Total $________

Purchase price of land, per acre *$300* Terms of purchase: Cash *1/5—$1,200*
Time allowed for future payments, years *10* Interest rate, per cent *6*
What improvements on farm when purchased *None*
Estimated total value of these improvements $__________
Cost of improvements made since purchase:
House *$1,600* Barn *$600* Outbuildings *$400* Well *$100*
Fences $________ Corral *$25* Clearing land $________
Leveling and checking land *$300* Seeding *$68* Orchard *$75*
Family garden $________ All other improvements $________
Amount spent annually, by years on improvements itemized above:
First year *$3,142* Second year $________ Third year *$50*
Later years $________ Total *$3,192*
Estimated cost of all necessary improvements when completed, including those already made $________
Cost of farm equipment:
Farm implements and tools *$200* Horses *$325* Cows *$1,200*
All other live stock *$40* Household furniture *$200* All other equipment *$120*
Acreage brought into production by years and crops:

	Acreage	Crop	Value
First year	*16½*	*alfalfa*	*$200*
Second year	*20*	*alfalfa*	*$500*
Third year			
Fourth year			
Fifth year			
1915	*20*	*alfalfa*	*$600*

Number of years required to bring your land into complete production *1*
Present value of land per acre, including improvements *$500*
Stock census of 1915:

	Number	Total market value in 1915	Gross returns in 1915
Dairy cattle	*10*	*$800*	*$800*
Beef cattle			
Hogs	*6*	*$60*	*$60*
Poultry	*50*	*$25*	*couldn't say*
Horses	*2*	*$325*	
Other			

Present indebtedness:

	Amount	When payable	Interest rate
Bank loan, unsecured	*$200*	*1917*	*8 per cent*
Private loan, unsecured			
Mortgage on land or stock			

Have you had difficulty in borrowing money for the improvement or equipment of your farm? *None*
Rate of interest you think you could afford to pay (*a*) for long term loans *5 per cent* (*b*) for short term loans *6 per cent*
Time needed to repay (*a*) long term loans *10* (*b*) short term loans *4-5*
What payments are you now able to make on your indebtedness, and how many years do you think it will require to complete your payments? *Will pay out on time. Regular payments.*
State number of acres you think a farm should contain to be a living area: (*a*) for fruit growing *10* (*b*) for dairying *20* (*c*) for general farming under irrigation *40* (*d*) for general farming without irrigation______
State amount of capital you think settler should have to undertake the purchase, improvement, and equipment of each of the above areas (*a*) for fruit growing $______ (*b*) for dairying *$5,000* (*c*) for general farming under irrigation *$3,000* (*d*) for general farming without irrigation $______
If you have had outside income during period covered by this report, please give particulars and state amount *$500 in the last three years.*

Remarks: (Here please add any additional data regarded as important, including what you may have to say about your present outlook for success not covered in report)

The land was sold at too high a price. It is worth about $150 to $200 an acre. Mr. ———— is treating the settlers fairly and has been of great help to them. I bought from the ———— Company and am contented and expect to succeed. To irrigate this country requires a large amount of water. In my case from 3 to 3 1/2 acre feet per acre.

STATISTICS OF COLONIZATION IN CALIFORNIA

Table I is a financial summary of the settlers' statements in colonies investigated. Table II shows the estimated outlay of settlers, furnished the commission by commercial organizations. Table III gives a summary of the terms on which land may be bought in countries which have a state land settlement policy and the average of terms in the colonies studied here. Table IV indicates the ages of settlers and the value of crops grown the first year after settlement. Table V indicates land prices.

TABLE I.

Summary of Data Relating to Financial Condition of Settlers.

Name of colony	Number of settlers interviewed	Average area of farm	Average price paid for unimproved land	Average time of payment	Average capital of settler	Average cost of improvements	Number of debtors	Average amount of indebtedness	Average rate of interest	
									Bank and private	Contract
Carmichael	23	15	$184	7.8	$6,025	$2,221	18	$2,209	7.2	8.2
Chowchilla	77	49	156	7.7	5,900	1,263	74	6,001	7.9	8.2
Clovis	18	22	118	4.9	2,077	1,125	12	2,283	9	7.8
Fontana	9	11	272	5.5	5,244	6,615	5	2,796		6.6
Imperial	14	132	93		7,707	6,466	13	4,481		8.5
Kerman	50	30	144	4.2	5,554	1,726	38	3,806	9.0	7.4
Kuhn	18	37	129	11	9,200	2,710	17	3,665	7.1	6.5
Laguna de Tache	27	29	93	7.0	3,506	898	18	1,720	10	7.2
Laton	31	53	56	7.4	2,508	1,479	20	2,087	8	6.9
Los Molinos	20	24	163	7.0	6,968	1,436	16	3,361	7.1	6.2
Modesto-Turlock large units	19	59	*107		6,254	4,843	6	3,016		7.3
Modesto-Turlock small units	20	19	*166		3,170	1,790	2	1,950		7.5
Newcastle, Auburn, Penryn	77	78	68				36	2,865		7.0
Oakdale	42	28	147	4.7	4,268	1,306	28	2,735	7.0	6.8
Orland	134	28	*136	3.6	3,227	1,506	112	2,374		7.1
Patterson	126	26	249	9.1	6,621	1,965	116	4,460	7.2	6.0
Rio Linda	26	23	250	5.2	5,407	1,875	17	2,490	10.2	6.2
Shafter	29	57	85	4.2	3,736	2,162	24	3,566	8.2	6.9
Van Nuys	5	6	512	3.2	2,060	4,006	4	4,000	7.5	7.0
Wasco	50	46	76	4.2	3,746	2,855	30	2,656	8.5	7.6
Wilton	45	25	98	4.7	2,804	1,123	31	1,866	7.0	6.0
Winton	40	25	153	4.0	5,500	1,404	30	1,765	7.6	6.9
Yuba City	76	51	171	3.5	3,017	2,890	41	2,514	7.3	7.4
Yucaipa	4	9	236	4.5	5,150	500	2	2,225		7.0
Totals or averages	991	37	$160	5.8	$4,814	$2,367	719	$2,881	8.0	6.9

*In a few cases prices averaged included some improvements on farms when purchased.

NOTE.—In Tables I and II, the prices paid by settlers for land in California colonies, in nearly all cases are for unimproved land. The principal exceptions are cases in which one settler sells his land partly improved to another settler.

TABLE II.

Reports of Commercial Organizations.

Section from which data obtained	Cost of unimproved land per acre	Terms of payment allowed	Interest rate on deferred payments, per cent	Estimated total cost per acre of improving a 20-acre fruit farm	Estimated total cost per acre of improving a 40-acre farm for dairying or mixed farming	Estimate of living expenses for first year	Capital a settler should have	Amount settler should have for first payment	Where money can be borrowed to complete improvements and equipment	Time of repayment
San Diego	$[illegible] to $[illegible]	3 years	7	$275	$500	$800 to $900	75%	60 to 75%	Hard to get; high rates	Usually 3 years; interest 7, 8 and 10%
Woodland	$30 to $150	Certain amount annually	6 to 8	$201	$402		$2,500	Depends on man	Don't know	7% and not more than 5 years
Corning	$25 to $100	10% down and rest in 20 equal parts. No interest or taxes.	6	$175	$150	$600 to $700	$10,000	Vary; pay ⅓ and have $1,000 to $2,000 in bank	Local banks	10% interest at local banks; private loans usually 8%; some 3 years and some 5 years
San Dimas	Practically none	Practically none					Improved land and $1,000 to $2,000 in bank		Banks, 40% on property	3 years, 7%
Covina	$600 to $700	⅓ down, balance 3 years	7	$184	$22	$500		⅓ to ½ down, balance reasonable	Not from bank	3 years, 7%
Claremont	$800	Any	7	$[illegible]	None	Depends on man	$5,000	All he can get	Private individuals	5 years, 7%
Placer	$25 to $150	Liberal	6 to 8	$175	$90	$600	⅓ to ½ down	Half	Local bank, local people	
Dinuba	$[illegible] to $200	⅓ down, balance 2 to 5 years	7 to 8	$70	$35	$250 up	$4,500 on 30 acres	All	Usually can not be done	

TABLE II—Continued.

Reports of Commercial Organizations.

Section from which data obtained	Cost of unimproved land per acre	Terms of payment allowed	Interest rate on deferred payments, per cent	Estimated total cost per acre of improving a 20-acre fruit farm	Estimated total cost per acre of improving a 40-acre farm for dairying or mixed farming	Estimate of living expenses for first year	Capital a settler should have	Amount settler should have for first payment	Where money can be borrowed to complete improvements and equipment	Time of repayment
Ontario, S. Bdno.	$150	On 20 acres $500 down, terms long.	7	$240	$240	$900 family of five	Depends on person	$1,000 to $1,500: ½ down and balance in 3 years	Banks, private	8 to 12%; time mostly 90-day notes
Sunnyvale	$250 to $500	⅓ cash and 3 to 5 years	7	$92		$300	$4,000	$2,000	Bank	7 and 8% and loans for 1 year
Petaluma	$200	½ down	6							
Healdsburg	$50 to $300	Usually cash	6 to 7	$225			$4,000 to buy farm 20 acres	$4,000		7% loans are permitted to stand for some time
Orland	$90 to $140	20% cash and 20% annually	7	$115	$153	$400	$5,000	$1,000	20% settlers accommodated by local bank	7% on land; 8% on cattle
Grass Valley	$15 to $100	10 to 25% down	6, 7 and 8	$210	$81	$300	$4,000	$2,000	From banks	7% and notes usually run 6 months with renewals
Corona	$250 to $350	One-fifth cash, balance in 5 or 6 annual payments.	6	$96			$5,000	$2,000	Banks, mortgage company	Probably 8 to 10%
Nuevo	$250 to $275	⅓ cash, balance 2 to 5 years.	7	$85		Living some higher than Los Angeles	$2,500	$1,250	Nowhere	
Marin	$50 to $1,000	No general plan	6 to 7						Local banks	
Averages	$260.97	3 to 8 years	6.73	$151.25						

NOTE.—The average cost of land according to the estimates of commercial organizations (Table II), is considerably higher than the average according to the statements of settlers (Table I). This is due to the fact that in the localities included in Table II land is better improved and has considerable residence value due to earlier development in the districts.

TABLE III.

Rate of Interest and Time Given to Pay for Land Under Colonization Systems of Different Countries.

Country	Rate of interest, per cent	Time given to pay for land or repaying loan
Denmark	3 to 4	63 years.
Italy	2.5	50 years.
Holland	4.7	
Norway	3.5 to buy land and 4 to owners	
Hungary	4	50 years.
Austria	4 to 4.5	54½ years.
Russia	4.5 principal and interest	55½ years.
Germany	3.5 to 4	60½ years.
France	4 to 4.5	75 years.
England	4	50 years.
Ireland	3.5	68 years.
Belgium	4.5	30 years.
Switzerland	4.5	37 years.
New Zealand	4	36½ years.
Victoria, Australia	4.5	31½ years.
New South Wales	3 to 5	20 to 40 years.
Other Australian states	4 to 5	20 to 40 years.
British and German South Africa	4	
Chile	4	35 years.
Argentine	4	
British Columbia	1 per cent more than the interest on state bonds; 5 per cent at present	36½ years.
California	6 to 10	3 to 5 years.

TABLE IV.

Summary of Ages of Settlers and of Gross Returns for the First Year for Nineteen California Projects.

Name of colony	Number of settlers interviewed	Average age of colonists at date of settlement	Average gross value of production, first year	Average gross returns per acre, first year
Carmichael	23	43.7	Orchard	Orchard
Chowchilla	77	41.5	$879	$5.70
Clovis	18	44.8	307	Orchard and vineyard
Fontana	9	40.1	Orchard	Orchard
Kerman	50	40.5	204	$6.86
Kuhn	16	40	123	3.34
Laguna de Tache	37	42.9	257	12.20
Laton	31	43	880	0.86
Los Molinos	30	48.6	284	11.71
Oakdale	43	44.3	131	4.64
Patterson	198	42.7	106	7.30
Rio Linda	36	45.3	Orchard	Orchard
Shafter	29	42.1	221	4.96
Van Nuys	5	36.2	Orchard	Orchard
Wasco	50	42.1	301	4.32
Wilton	45	42.7	77	3.03
Winton	40	40.3	118	4.74
Yuba City	76	44	768	14.99
Yucaipa	4	51.7	Orchard	Orchard
Averages		42.6	270	$7.13

TABLE V.

Average Price Per Acre of Farm Lands in the United States 1916.

Division	Improved	Unimproved
North Atlantic states	$64 80	$38 71
South Atlantic states	38 02	23 79
North central east of Mississippi River	100 67	74 95
North central west of Mississippi River	73 21	50 08
South central	37 38	21 00
Far western	102 56	58 40
California	180 00	110 00

Prices Paid for Land by Colonists in Other Countries.

Country	Average price per acre
Switzerland	$254.22 (intensive holdings).
Finland	$2.50 to $175.73; average, $7.60.
Ireland	$50.
England	$150.
Denmark	$88.98.
Germany	$95 to $125.
Russia	$21.01.
Australia (general land)	$18.00.
Victoria, Australia (irrigated land)	$80.00.
California settlers' statements	$190.72.
California commercial bodies' statements	$260.97.

NOTE.—Table V gives the prices of land in other sections of the United States as compiled by the United States Department of Agriculture in 1916, and the prices paid for farm land in other countries of the world as compiled by the state or semi-public authorities engaged in colonization. In Germany, Ireland, England, and Denmark, much of the land purchased is highly improved, with costly residences and farm buildings. The land in Australia is cleared and fenced; it is in about the same state of improvement as the large wheat ranches of California.

Summarized, these tables show: That the purchase price of unimproved land is higher in California than in other parts of the United States or in those countries which have a state system of land settlement. This does not reflect on the desirability of California land because the climate makes land here more valuable than in any other part of this country.

Settlers need assistance

What it does show is: That we have reached a period in our development when settlers here need all the assistance that is given them in countries which have adopted state aid in land settlement as a public policy.

Interest too high; time too short

That the rate of interest in California is also higher; and that the settlers in countries with state systems have from four to ten times as long to pay for their land as have the settlers under private colonization contracts in California.

But the tables do not tell the whole story. In Ireland, England, Denmark, Germany, Italy, Australia, and South Africa the settler is given expert direction and competent financial advice in making his initial improvements. This enables a settler to bring his farm into full production at a lower cost and in a shorter time than is possible where each individual must make his initial improvements without such direction or advice. Organization in the development of a colony and preliminary training or direction of settlers are as valuable as is the preliminary training of workmen in their duties in a great industrial undertaking.

Value of expert assistance in other countries

CONDITIONS OF LAND SELLING CONTRACTS IN CALIFORNIA SHOULD BE MORE LIBERAL

The comparison of land prices and conditions of payment here and in other countries raises the question, "How it is possible for settlers in California to pay for farms in periods of from three to ten years, while in other countries periods of from thirty to seventy-five years have been found necessary." The answer is that in California the settler who has not had a large cash capital or some outside income *has not been able to purchase a farm.* We have not found a single settler who, bringing with him only the limited capital accepted by state systems in other countries, has been able to pay for his land in the time agreed upon in his contract.

Settlers of limited capital are not purchasing land in California

The experience of practically every colonization company, no matter what degree of success it has attained, shows that it would have been better for both the settler and the company if the original enterprise had been organized on a financial basis which would have given the settler more money for improvements and a longer time in which to pay for his farm.

Colonies show that longer terms for payment would be better

INFORMATION ABOUT SPECIFIC COLONIES

The information about the colonies listed below has been obtained from the managers and confirmed by the settlers:

Los Molinos. This colony is now a success. A majority of the settlers have overcome the obstacles which at first threatened to overwhelm them. But there was a time when it seemed as though the enterprise would fail. The settlers had bargained to pay a high price for unimproved land in the short period of seven years. In addition to meeting land payments they had to provide the money for improvements and equipment, which on small irrigated farms are very heavy. The operating expenses included taxes of about $3.00 an acre, water charges of $2.00 an acre, and interest on land which cost from $75 to $300 an acre. The amount of money required to meet the payment of interest, principal, and taxes was somewhere between $35 and $40 an acre. At the outset the land did not produce anything approaching this sum.

Fortunately, the company which founded the colony had financial resources which enabled it to assist the settlers by buying cows, which cost $60,000, and allowing the settlers to pay for them by giving to the company one-half of each cream check. Each settler paid 8 per cent interest on the loan.

The following figures show to what extent the anticipated payments of settlers have not been made. The 375 contracts outstanding at this time represent:

$48,763	arrears of interest,
$651,001	arrears of principal,
$15,689	ledger account, and
$13,446	unpaid balance on purchase of cows.

It would have been better for this company, and certainly better for the settlers, if the original contracts had given the settlers time to earn out of the land enough money for their payments.

Orland. Few settlers of limited means have been able to meet their land payments and some have had to borrow money to meet their water charges. Many of the notes given to banks for money advanced to pay for cows are overdue. Settlers have asked for the creation of a federal farm loan association in order to obtain thirty years time with a lower rate of interest. Orland is another colony which is going to succeed. But progress would have been more rapid and settlers would have been relieved from a heavy burden of anxiety, if the time of payment had been in accord with the profits of agriculture.

Willows, S. V. I. Co. The testimony taken at Willows showed that fully 90 per cent of the settlers in this colony are behind with their payments. The reorganized company (Superior California Farm Lands Company) has this year, voluntarily and generously, given all resident colonists new contracts. In them credit is given for all payments made and *all arrears of interest are written off.* That is, many settlers have had their land rent free for several years. Many others who were unable to wait for a revision of the contracts have, however, had to leave the colony, losing all they paid.

Carmichael. This has been mainly planted to orchards, which are not yet producing. Few settlers have a living income from the land; a considerable number earn this by working for wages. If strict compliance with contracts had been insisted upon, very few resident colonists would be left. Many who have made no payments since the first have been given more time; and some have borrowed back the first payments to carry on the cultivation of their orchards.

Wilton. The settlers in this colony lacked both capital and experience. Many have had to leave because they lacked capital to complete improvements and to meet deferred payments on land. Even if they had had sufficient capital, success would not have been possible without irrigation. No facilities for irrigation were provided.

Patterson. In the Patterson Colony the earlier settlers and later ones with ample capital have done well, but the capital of many settlers was absorbed in making the first payment. They were, therefore, unable to buy stock or equip their farms. A large number have given up. Some have succeeded because they rented, at a nominal rate, the farms of nonresident owners. But many are able to remain only because the owners of the colony lands are not insisting on payments in accordance with their contracts.

The Oakdale District Colonies. There are twenty-seven colonies in the Oakdale irrigation district. Some of these are prospering. In some only two or three colonists remain. In the successful colonies land was sold at a reasonable price and settlers who needed it were given more time. The colonies established by Rodden Brothers, local landowners and bankers, are successful. The Avery and Leitch colonies have failed. Inexperienced settlers, poor soil, inflated land prices, and lack of either financial help or practical advice for beginners have compelled many settlers to leave.

Winton. At Winton the price of land was $142 an acre, and the colonists agreed to pay this within four years. In addition the land had to be leveled, ditched, fenced, and planted before a crop could be grown. There are plenty of attractive homes at Winton, but the owners have not paid for them in contract time. If the company had not been able to give better than contract terms, these settlers would have had to leave.

Kerman. The Kerman colony has two very different classes of soil. Adjacent to the river and running south for two or three miles the soil is good; and the settlers on the good soil have prospered. But from there to the southern boundary of the company's land much of the soil is poor and affected by hardpan and alkali. The settlers who bought this poor land and agreed to pay for it in five years undertook an impossible task. A considerable part of this colony was bought by nonresidents. Among the settlers, who lacked experience and adequate capital, there have been many failures. Some old people lost in this colony the savings of years.

The Fairmead Colonies. Interviews with the officers of the colonization company and with the settlers, and personal observations of members of the commission seem to justify the following conclusions:

Settlers with ample capital or outside incomes have generally succeeded, but a large percentage have abandoned their farms on account of discouragement, due to lack of capital. Many settlers in arrears are being carried by the company, which is endeavoring to assist them in securing loans from outside sources.

Laguna de Tache. This colony started ten years ago, the land selling at $50 an acre. Settlers who bought land at this price have usually succeeded. Colonization today presents a harder problem, because the price of land has been raised to $110 an acre. Whether settlers of small capital can pay this higher price within the time limit given has yet to be determined.

A leasing system has recently been inaugurated by the company. The lessee rents the land at $3.00 an acre the first year, $4.00 the second, and $5.00 the third. At the end of the third year the lessee must have the land in alfalfa, vines, or some specified crop. In addition to the rental money, if the lessee decides to purchase, he must pay an advance of 5 per cent in the price for each year the option runs. Thus land which sells at $110 an acre will cost $115.50 the first year, $121 the second year, and $126.50 the third year. The system gives an opportunity for young men of small capital to make a start, but even these payments seem larger than the profits of agriculture generally warrant.

Chowchilla. The time given to pay for the land in the different Chowchilla subdivisions varies from five to ten years. Only a part of the payment period has elapsed since settlement began; but this has been enough to make it clear that the settlers will not earn any considerable part of the payment money out of the land within the contract period. The land requires irrigation, and the settler has to provide his own water supply by pumping from wells. This requires a large initial outlay and a considerable annual expense per acre for irrigation.

Wasco and Shafter. In these two colonies the price of land varies from $70 to $90 an acre, and the contract time of payment averages four and one-half years. The actual time, under the present management, is whatever the settler needs. Some of the Wasco settlers bought their farms for $32 an acre. But all settlers who are in debt would feel more secure and be in better position to plan for the future if the time of payment were made 20 years instead of less than one-fourth that time.

Fontana. Fontana is an orchard colony, mainly devoted to citrus fruits. Much of the land is sold with a water right and already planted. The average price of planted land is $354 per acre and the average time of payment four and one-half years. This payment period is only possible for settlers who have large capital, as there can be no income from the orchards during the first four years. The company is now offering to lend money to settlers to enable them to become poultry raisers and so secure an immediate income. The average capital of the settlers interviewed at Fontana, however, is great enough to enable them to pay for the land in cash. Thus there is no question of terms.

Van Nuys. Van Nuys can not be considered as either an agricultural or a horticultural colony. It is so near Los Angeles and so well provided with transportation facilities that the land has a large prospective residence value entirely independent of what can be grown on it. The greater number of the settlers here are persons of independent means. Much of the land has been bought by people who believe that the growth of Los Angeles will enhance its residence value. Considered on a productive basis, the average price of $540 an acre, to be paid in less than four years, is prohibitive. This has been proved by the experience of settlers who bought, expecting to complete the payments for their land by returns from crops. They were unable to do so. If members of the colonization company had not been able to lend $60,000 to buy poultry and equip poultry farms, many would have failed. The company is now assisting settlers in other ways. It builds houses and sells them to settlers on time payments; it has advanced large sums of money to establish local markets; it has organized a cooperative cannery; and it has otherwise helped finance beginners.

Readjustment in Land Selling Methods Inevitable

The inability of settlers to meet their payments in these different colonies does not necessarily mean that the land is not valuable for agriculture or horticulture or that, in most cases, it is not worth the price asked for it. What it does mean is that we have been carrying on colonization enterprises on an impossible financial plan. If the settlers in these colonies where the soil is good and the water supply satisfactory, had been given the time, the interest rate, and the assistance in other directions given settlers in Denmark, Ireland, Germany, or Australia, the percentage of successes here would have been as large as in those countries.

Colonization plans financially impossible

Many with whom this commission has talked do not think that any changes are needed in colonization methods. They say, "In the past men paid for land in five years. Why can they not do it today?" They seek to explain the large percentage of failures by the settlers' lack of industry and frugality. They tend naturally but unwisely to continue along old lines, even if they have to be content with settlers of low ideals and a debased standard of living. The fact is that today men can not pay for land in five years from the profits from the soil.

Greater cost of farm land

That the task of paying for a farm out of its products has become much harder in the last ten years is shown by the following statistics:

When colonization began at Orland, land was selling for from $10 to $40 an acre. The same land with no improvements now sells for $75 to $150 an acre, with a water right costing $40 an acre still to be added.

The lands of the Sacramento Valley Irrigation Company were bought at an average price of $37 an acre. The settlers interviewed paid an average price of $130 an acre, part of which represented expenditures on the irrigation works, but settlers are still confronted with additional expenses for completing the works and meeting the interest on the bonds of an irrigation district.

The Haggin Grant, on which part of the Carmichael Colony is located, sold before subdivision for less than $50 an acre. The same land after subdivision sold for $200 an acre.

The early settlers in Modesto and the Oakdale districts bought land for less than $50 an acre. The same kind of land in these districts now sells for $100 and $150 an acre—in some cases for $250 and $300 an acre.

The early settlers at Wasco paid $32 an acre, while present settlers are paying an average of $91.

The Mexican Grant on which the Van Nuys colony is located was sold a few years ago for about $50 an acre. The present re-sale prices of the same land, after sharing the costs of subdivision, roads, and other improvements, is $540 an acre.

The first settlers at Patterson paid about half the price paid by later settlers.

The first settlers at Laguna de Tache paid less than half the price now asked.

Throughout the area where land is being colonized, land prices have been multiplied by from two to ten, while the profits of farming have increased but little if at all. Hence some years ago men who bought land at $50 an acre could pay high interest rates and get out of debt; while those who have bought recently are struggling to meet interest payments alone.

These higher prices for land have made intensive cultivation a necessity; and that in turn requires costlier improvements and higher-priced equipment. The investigations of the United States census showed that while the area of the farm had diminished between 1900 and 1910, the average capital invested in it had increased 86 per cent.

Greater cost of farm improvements

The acreage cost of improvement and equipment also increases as the size of the farm diminishes. The cost of a house and a stable on a twenty-acre farm may be today no greater than was formerly the cost on a farm of 160 acres; but the acreage cost is about eight times as great.

The estimates made by the commercial organizations show the ultimate cost of improvements on the small intensively cultivated farms in some of the older settled districts. The average in Table II is $180 an acre. In Orland, where the colony is six years old, the average cost of improvements already made is about $100 an acre. The cost of all improvements needed will be about $125 an acre.

Estimates of cost of ready-made farms

Recently some of the colonization companies have been studying the feasibility of providing ready-made farms for settlers. In doing this they have made estimates of what it would cost to prepare farms for cultivation. Three of these estimates are given. The first was prepared by Balfour, Guthrie & Company of San Francisco, the second by the San Joaquin Valley Farm Lands Company, and the third by Kendrick & Company of the Chowchilla Ranch.

Estimated Cost of 40-Acre Dairy Farm.

Contra Costa County, California.

Land: Forty acres with water right, consisting of one share of stock in Mutual Water Company to each acre of land. Land leveled and checked, with irrigation ditches and boxes, and planted to alfalfa, at $300 per acre	$12,000 00
Buildings:	
Dwelling house—5 rooms	$1,200 00
Milking shed for 40 cows	1,500 00
Milk house	650 00
Well, windmill and tank	200 00
Sundries	100 00
	$3,650 00
Equipment:	
40 cows at $75	$3,000 00
2 work horses at $100	200 00
2 driving horses at $150	300 00
Harness	100 00
Sundry implements, tools, milk cans, etc.	500 00
Allowance for incidentals	250 00
	$4,350 00
Total estimated cost of land, buildings and equipment	$20,000 00
Total cost per acre	$500 00

Income.

Milk—40 cows—average 2½ gallons each per day (36,500 gallons per annum) at 16 cents	$5,800 00
40 calves at $5.00	200 00
Sundries	200 00
	$6,200 00

Outlay.

Wages—2 men at $65 per month (including board)	$1,560 00
Feed—winter feed for cows, barley for horses	700 00
Water—water charges $5.00 per acre per annum, based on using 2 acre feet per acre	200 00
Taxes	160 00
Insurance	50 00
Depreciation: 5 per cent on buildings; 10 per cent on equipment	600 00
	$3,270 00

Summary.

Estimated income	$6,200 00
Estimated outlay	3,270 00
Surplus	$2,930 00

Percentage of surplus to investment, 14.65.

Twenty years necessary for payment

The above surplus would not provide for the expenses of the settler's family, the paying of interest, and the paying of installments large enough to cover the principal in five years. However, there seems little doubt that buying one of these ready-made farms would be a safe undertaking on a payment plan extending over twenty years, and giving the privilege of paying off at an earlier date, providing a market for fresh milk could be assured. If product were to be disposed of as butter fat, margin of profit would be greatly reduced.

Estimated Cost of 40-Acre Dairy Farm.

San Joaquin Valley, California.

40 acres of land at $200	$8,000 00
Cost of improvements	3,000 00
20 cows at $100	2,000 00
5 brood sows at $15	75 00
50 chickens	25 00
One team, wagons, implements, etc.	500 00
Total selling price	$13,600 00
Estimated revenue as follows:	
Returns from 20 cows at $72 per annum	$1,440 00
Annual increase from cows	200 00
Annual return from hogs at $30	150 00
Annual return from 50 chickens at $1	50 00
Total receipts	$1,840 00
The selling plan proposed is as follows:	
Total purchase price	$13,600 00
First payment on purchase	1,600 00
Total indebtedness	$12,000 00

From the 20 cows there should be a monthly return of $6.00 per head, or $120, of which $96 is to be paid to the company to meet interest charges, and reduce principal indebtedness; this is at the rate of $8.00 per month per $1,000 of indebtedness; and this payment, continued through a period of 197 months, or 16 years, 5 months, will wipe out the entire indebtedness, if the interest rate is 6 per cent.

Subsequent to furnishing this estimate the manager of the enterprise has decided that it would be safer both for the settler and for the company to provide for smaller payments during the first three years and make the payment period twenty years instead of sixteen and a half years. On this basis, the plan seems to be a safe undertaking for settler and colonization company.

Estimated Cost of 40-Acre Dairy Farm.

On the Chowchilla Ranch.

Cost.		*Cash required to start.*	
40 acres at $125	$5,000 00	10 per cent down payment	$500 00
Improvements and equipm't	2,175 00	Payment on account	1,230 00
2 horses	200 00	Cash payment	200 00
30 cows	2,100 00	Company furnishes cows without cash.	
3 brood sows	45 00	Cash payment	45 00
50 chickens	25 00	Cash payment	25 00
	$9,545 00		$2,000 00
Less paid on account	2,000 00		
Balance	$7,545 00		

Balance due	$7,545 00
Interest at 6 per cent per annum	452 70
Taxes	40 00
Amount due at end of first year	$492 70

Minimum income first year.		*Minimum income second year.*	
30 cows at $36	$1,080 00	30 cows at $72	$2,160 00
18 hogs at $10	180 00	60 hogs at $10	600 00
	$1,260 00		$2,760 00
Less interest and taxes	492 70	Less interest and taxes	492 70
Surplus	$767 30		$2,267 30
		Payment on land, 10 per cent on balance	450 00
		Surplus	$1,817 30

NOTE.—No account is taken from income on chickens, as these are expected to help carry running expenses. It is, of course, presumed that during the first and second years, surplus will be used to wipe out floating indebtedness, and for the next three years to provide more comforts and better improvements.

No provision for wages, etc.

The above estimate does not include any provision for wages, nor for payments on cows, nor repaying local dealers or others who advanced money for improvements and equipment. To care for 30 cows and cultivate 40 acres of land intensively, as must be done to grow feed enough for over 50 head of livestock, would require the labor of two or three men; so that wages and living expenses alone could easily absorb the first year's surplus.

Unless a considerable part of the land were leveled and prepared for irrigation, 30 cows could not be supported the first year.

These estimates are published mainly to show one significant fact, that to buy and equip a farm so as to pay for it in ten years requires an almost immediate investment of over $100 an acre in addition to the cost of the land.

Professor R. L. Adams prepared for the commission a valuable report on the equipment required on an intensively cultivated farm. In this he gives the total cost of equipping a 30-cow dairy farm at $6,500. Assuming this farm to have an area of 40 acres, the cost would be $160 an acre. He estimates the cost of equipping a 40-acre general farm at about $4,500, or a little over $100 an acre.

The Fresno Suburban Homes Company, which has recently made a thorough study of the cost of developing a fig orchard, has fixed the cost of preparing and cultivating the land for the first five years at $127 an acre. If to this is added the cost of a house and other accessory buildings, the cost on a 20-acre orchard at the end of five years would be over $200 an acre.

The estimate of Professor Adams does not include water rights or a number of other expenditures which can not be avoided on an irrigated farm. The first two estimates include in the price of the land some of the expenditures on its improvement. All the estimates agree, therefore, that the cost of preparing a 40-acre irrigated farm in California so that it will be habitable and in condition to be fully productive will be from $100 to $200 an acre.

Cost of equipment $100 to $200 an acre in addition to cost of land

On pages 30 and 31 is given the cost of bringing an orange orchard into full production. The total is between $400 and $600 an acre.

Some credit system more liberal than that of the Federal Farm Loan Act or that provided by colonization enterprises is therefore indispensable if we are to attract and retain many homeseekers who have all the elements of experience and character essential to success but who, lacking capital, must depend on their frugality and industry to earn the money to pay for their homes.

The Returns from the Intensively Cultivated Farm

The short time given to pay for land in most colonization contracts implies a profit from cultivation of between 20 per cent and 25 per cent of the cost of land and equipment. Such profits are occasionally made, but they are not the rule. Investigations of the United States Department of Agriculture show that the fully improved farm rarely pays more than 5 per cent on the investment, if a reasonable allowance is made for the wages of the farmer and his family.

Implied profit: 20 to 25 per cent; actual profit: 5 per cent

The United States Reclamation Service has kept a careful census of the yield and the value of crops on the federal projects since their inception. In the thirteenth annual report the average values of crops are as follows:

Value of crops on federal projects

1910	$31 00 per acre
1911	27 00 per acre
1912	26 60 per acre
1913	24 50 per acre

The following table gives a more detailed report for 1914. The reductions in acreage value of crops were mainly due to the declining prices of products. For the last two years prices have been higher.

TABLE VI.

Crop Report for Various Projects, Compiled From the Fourteenth Annual Report of Reclamation Service.

Page in report	Project	Cropped acreage	Value	
			Total	Per acre
15	All government reclamation projects	708,424	$10,475,817	$14 80
53	Salt River project, Arizona	169,710	4,089,079	23 86
60	Yuma project, Arizona-California	22,568	709,408	31 44
70	Orland project, California	6,540	176,231	26 95
85	Uncompahgre Valley, Colorado	33,091	870,281	26 29
96	Boise project, Idaho	58,094	1,033,447	17 80
102	Minidoka project, Idaho	80,138	661,706	16 91
118	Black Foot project, Montana	474	3,000	6 30
123	Flathead project, Montana	6,204	81,025	13 06
129	Fort Peck project, Montana	1,004	10,453	10 41
134	Huntley project, Montana	17,008	464,583	26 68
149	Milk River project, Montana	2,108	34,618	16 00
107	Sun River project, Montana	6,569.5	106,584	16 25
165	Lower Yellowstone project, Montana	5,481	96,707	17 50
175	North Platte project, Nebraska-Wyoming	60,530	800,238	14 95
186	Truckee-Carson project, Nevada	39,295	441,025	11 23
204	Carlsbad project, New Mexico	10,731	257,020	22 15
212	Hondo project, New Mexico	1,172	21,458	18 31
215	Rio Grande project, Mesilla Valley	18,566	736,222	39 14
218	Rio Grande project, El Paso Valley	8,747	424,498	48 57
227	Williston project, North Dakota	1,048	23,440	21 87
240	Umatilla project, Oregon	3,013.4	88,612	29 41
250	Klamath project, Oregon-California	24,440	347,344	14 22
259	Belle Fourche project, South Dakota	36,709	461,139	12 56
265	Okanogan project, Washington	3,180	104,075	32 65
259	Yakima project, Washington	49,273	2,858,945	58 02
261	Yakima project, Washington	15,920	472,400	29 00
315	Shoshone project, Wyoming	20,925	313,658	15 00
	Totals	1,364,149.9	$22,125,308	$656 60
	Average			$22 66

Payment plans must be based on averages

In all districts exceptional single farms and single acres brought far more than average returns. For example, single acres of citrus fruits at Orland have brought a return of $249 each; and single acres of small fruits have brought a return of $252 each. Single acres devoted to truck farming in California colonies have brought returns of over $100 each. The payment plans for colony farms should not, of course, be based on the returns of the exceptional acre or the exceptional farm, but on averages.

Census estimates too high

The gross value of crops grown on irrigated land in California given in the United States census as $43.50 an acre is higher than can be expected by beginners, because it includes the highly improved orchards and vineyards in full bearing. But even at this rate, a 20-acre farm would give little more than a living income for the settler's family if there were no expenses for taxes, water, and repairs. Furthermore, the census figures quoted include the acreage devoted to tropical and semitropical fruits, with an average gross value of $154.32 an acre, and to orchards of other fruits with an average value of $77.18 an acre. Alfalfa, which is the beginner's main dependence, had an average acreage value of only $22.94.

CITRUS FRUITS: COST OF PRODUCTION AND INCOME

Even in industries like the growing of citrus fruits, which require a large investment in land, a long wait for returns, and an exceptional skill and care in cultivation and marketing, the net profits over and above expenses of cultivation only average 4.3 per cent on land valued at $1,000 an acre, according to a report prepared by the California Citrus Growers' Association.

Professor R. S. Vaile of the Citrus Experiment Station at Riverside, has prepared the following tables on the cost and production of citrus fruits:

TABLE VII.

Cost of Developing Orange Orchards.

Land with water, ready to plant		$400 00	
Trees planted		75 00	
Pipe lines		15 00	
			$490 00
Cost for first four years, per year.			
Labor and team work	$20 00	$80 00	
Fertilizer, including covercrop	6 00	24 00	
Taxes	5 00	20 00	
Water charges	14 00	56 00	
Miscellaneous—tree care, depreciation, etc.	7 00	28 00	
Administration, superintendence, etc.	8 00	32 00	
Total per acre	$60 00	$240 00	240 00

Cost for fifth to seventh years, inclusive.

Labor and team work	$25 00	$75 00	
Fertilizer, including covercrop	20 00	60 00	
Taxes	7 00	21 00	
Water charges	20 00	60 00	
Pest control	6 00	18 00	
Miscellaneous—tree care, depreciation, etc.	8 00	24 00	
Administration, superintendence, etc.	9 00	27 00	
Total per acre	$95 00	$285 00	285 00

Cost, eighth to tenth years, inclusive.

Labor and team work	$30 00	$90 00	
Fertilizer, including covercrop	40 00	120 00	
Taxes	11 00	33 00	
Water charges	20 00	60 00	
Pest control	10 00	30 00	
Miscellaneous—tree care, depreciation, etc.	12 00	36 00	
Administration, superintendence, etc.	12 00	36 00	
Total per acre	$135 00	$405 00	405 00
Total cost for 10 years, per acre			$1,420 00

TABLE VIII.

Yields and Values of Oranges.

5th year	30 packed boxes at $1.30 on trees	$39 00
6th year	60 packed boxes at $1.30 on trees	78 00
7th year	90 packed boxes at $1.30 on trees	117 00
8th year	120 packed boxes at $1.30 on trees	156 00
9th year	130 packed boxes at $1.30 on trees	169 00
10th year	140 packed boxes at $1.30 on trees	182 00

TABLE IX.

Financial Summary of Oranges to 10 Years of Age.

	Cost	Credit	Net cost	Net credit	Accumulated cost without interest	Interest at 5 per cent	Total accumulated cost
Original cost	$490 00		$490 00				
Cost first 4 years, at $60.00	240 00		240 00		$730 00	$122 00	$852 00
Fifth year	95 00	$39 00	$56 00		786 00	42 60	950 60
Sixth year	95 00	78 00	17 00		803 00	47 53	1,015 13
Seventh year	95 00	117 00		$22 00	781 00	50 75	1,043 88
Eighth year	135 00	156 00		21 00	760 00	52 19	1,075 07
Ninth year	135 00	169 00		34 00	726 00	53 72	1,094 79
Tenth year	135 00	195 00		60 00	666 00	54 74	1,089 53

TABLE X.

Cost of Developing Lemon Orchards.

Land with water, ready to plant		$400 00	
Trees planted		75 00	
Pipe lines		15 00	
			$490 00
Cost for first four years.			
Labor and team work	$20 00	$80 00	
Fertilizer, including covercrop	3 00	24 00	
Taxes	5 00	20 00	
Water charges	14 00	56 00	
Miscellaneous—tree care, etc.	9 00	36 00	
Administration, superintendence, etc.	8 00	32 00	
Total per acre	$62 00	$248 00	248 00
Cost, fifth to seventh years, inclusive.			
Labor and team work	$25 00	$75 00	
Fertilizer	30 00	90 00	
Taxes	7 00	21 00	
Water	24 00	72 00	
Miscellaneous—tree care, etc.	16 00	48 00	
Administration	9 00	27 00	
Pest control; frost protection	25 00	75 00	
Total per acre	$136 00	$408 00	408 00
Cost, eighth to tenth years, inclusive.			
Labor and team work	$32 00	$96 00	
Fertilizer	60 00	180 00	
Taxes	11 00	33 00	
Water	24 00	72 00	
Miscellaneous—tree care, pruning, etc.	23 00	69 00	
Administration	15 00	45 00	
Pest control; frost protection	30 00	90 00	
Total per acre	$195 00	$585 00	585 00
Total cost for 10 years, per acre			$1,731 00

TABLE XI.

Yields and Values of Lemons.

5th year	25 packed boxes at $1.70 net on trees	$42 50
6th year	50 packed boxes at $1.70 net on trees	85 00
7th year	80 packed boxes at $1.70 net on trees	136 00
8th year	120 packed boxes at $1.70 net on trees	204 00
9th year	140 packed boxes at $1.70 net on trees	238 00
10th year	150 packed boxes at $1.70 net on trees	255 00

TABLE XII.

Financial Summary of Lemons to 10 Years of Age.

	Cost	Credit	Net cost	Net credit	Accumulated cost without interest	Interest at 5 per cent	Total accumulated cost
Original cost	$490 00		$490 00		$490 00		
First year	62 00		62 00		552 00	$24 50	$576 50
Second year	62 00		62 00		614 00	28 82	667 32
Third year	62 00		62 00		676 00	33 36	762 68
Fourth year	62 00		62 00		738 00	38 13	862 81
Fifth year	176 00	$82 50	93 50		831 50	43 14	956 31
Sixth year	136 00	85 00	51 00		882 50	47 81	1,055 12
Seventh year	136 00	136 00			882 50	52 75	1,107 87
Eighth year	195 00	204 00		$9 00	873 50	55 39	1,154 26
Ninth year	185 00	228 00		43 00	830 50	57 71	1,168 97
Tenth year	195 00	255 00		60 00	770 50	58 44	1,167 41

The letter transmitting the statistics given in Tables VII to XII contains the following paragraph relative to the size of the orchard required to give a living income and the capital required by the settler:

> "There is one other factor which I would call attention to in connection with citrus statistics, and that has to do with the size of unit to be desired. The total labor cost, including management, on bearing citrus groves will vary between \$20 and \$50 per acre, the average being in the neighborhood of \$30 for oranges and \$45 for lemons. These figures include the labor of fumigation and other pest control which practically no growers can handle for themselves, and also the pruning expense which comparatively few growers handle for themselves. Figuring on that basis, a farm unit should have no less than thirty acres of land in order to be justified in expecting a labor income of from \$800 to \$1,000 for the entire family. Incidentally our study of orchards of various sizes indicates that one animal on the average will care for from 13 to 18 acres, or one team will take care of about 30 acres."

TESTIMONY REGARDING COLONIZATION METHODS AND RESULTS

Some of the best informed men of the state appeared before the commission at its public hearings and gave their views of existing conditions. Their conclusions were free from any bias and were based in each case on an extended experience. We can give extracts from the testimony of only a few of these witnesses but the few represent fairly the views of nearly all of them.

MR. C. F. DILLMAN, president of the D. O. Mills Bank, Sacramento, testified as follows regarding colonization:

Q. Have there been any number of failures, so far as you know?

A. Yes, there is no question of that.

Q. Have you been able to determine the cause of these failures and a remedy, if there is any remedy?

A. One of the principal causes, I think, is the high price of the land. People charge too much for the land. Then again, colonists are put on land that is not suitable for what they came to raise. And some Eastern people have made failures because the land was different from what they were used to in the East.

Q. They have gone into this without counting the cost and lost?

A. People have lost a great deal of money.

Q. Have they failed despite being properly financed, or has lack of proper financing been the cause of their failure?

A. I think you might say both. I have known people with enough money to keep themselves going, that after a while have abandoned their farms and left, and are working in the cities at some kind of labor. And then again, I have known people without proper financing to fail too.

Q. From what causes did lots of them fail?

A. They had a dry year, or a flood, or grasshoppers, or the price of fruit was poor. There were a number of things. It depended on the year, conditions, etc.

Q. In how far is the city bank affected by the prosperity or adversity of the small farmer?

A. If he is close to the city bank, the bank is very vitally interested in his success, though he is not, as a rule, much of a depositor.

Q. His adversity is felt by the city bank?

A. Yes, it is very noticeable, as the merchant is probably carrying the farmer; and if he can not pay the merchant, the merchant has to go to the bank.

Q. Then the prosperity of the small farmer is very material, as he is really the foundation?

A. Surely.

Q. And if the foundation is strong the whole community will be better and stronger?

A. The community lives off the farmer, either from what he produces or what he brings into the country.

Q. Anything that tends to aid in the prosperity of the small farmer reflects itself to all about him?

A. Very much. I think particularly the small farmer; the large farmer does not seem to have been so much of a benefit. The large farmer manages to get along without much trouble, while the small farmer, the man who really develops the country and perhaps pays an improper share of the taxes, receives little benefit or assistance from the banks.

Q. Looking at it from the eye of the banker, what is likely to produce the better results, a community tilled by farm tenants, or a community tilled by small landed proprietors with an interest in the soil they till?

A. The small landed proprietors, by a very large measure. I think you will remember the time when a lot of our American people were at Newcastle and Florin and the farmers and the boys did most of the work, with a few Chinamen. Now the Americans are sitting on the fence and seeing Orientals handle their property for them. I remember that a man with a small farm ten years ago told me that about 10 per cent of his gross receipts went for help, and now he tells me that 60 per cent goes for help.

Q. Then anything and everything that can be done to discourage farm tenantry, and on the other hand encourage the small landed proprietor, ought to be done?

A. Certainly.

Q. You have given more or less study to this system of rural credits. What are your ideas regarding it?

A. Well, I have studied the development and the troubles in England and Ireland, and also have looked into the German system and the Australian success, and it seems to me it would be a great benefit to the country if the small farmer, with proper safeguards and proper restrictions, could be helped to get himself going. After he has possession of his land I think the small farmer will be able to make good. What he needs is that $600 Mr. Walton was telling about.

Q. You heard more or less of the testimony yesterday?

A. Yes, sir.

Q. You remember the question was raised as to whether it was wise for the state to father a system of rural credits; also the question was brought out whether, if the state did father a system of rural credits by standing behind the bonds, it would be helpful to the banker?

A. I think it would help the banker from the general prosperity, and it does not compete with the banker in any way. So I should think it would all be in line of a general help to the bankers, because what we need is population. Why, we have thousands of acres in great tracts in northern California that ought to be cut up in tracts of 40 or 80 acres. It would be the greatest blessing we could have to get this done.

Q. I take it your attitude is that a movement of this kind on behalf of the state would create depositors for the banks?

A. Surely.

Q. Assuming that the system could be surrounded by proper safeguards and other protection given the state, can you see any objection to the state lending its credit to a movement of this kind?

A. I know that this thing of the state lending its credit is a thing about which there is a great deal of difference of opinion. You no doubt know that the state loaned its credit in the early days of development and I am satisfied that the general opinion was that it was abused; and the constitution was amended to prevent anything like that in the future. But times have changed now, and if things can be safeguarded, it would be a good thing to have the state lend its credit to the small landowner who has proven his ability to use it right. I think it would be a great benefit to the state.

Q. Do you regard the fact that we have the referendum at our command, a safeguard which did not exist in earlier history? Would that not be an added safeguard? Suppose we should have a corrupt or unwise legislature that would unwisely or corruptly loan the credit of the state. Is it not a fact that we could stop it with the referendum?

A. Yes, but I do not think we would ever be called upon to do that, as the farmers are spread all over the country and could not get together and work any injury to the state as a large corporation could. I can not imagine where the legislature could use this power to the injury or detriment of the state.

Q. In other words, if the proposition were to loan the credit of the state to what is termed "big business" you would be opposed to it?

A. Yes, in that case I believe that corruption would be possible, but I can not see why it is not all right to loan it to the small farmer or to the young man to give him a start as a farmer.

Q. I take it you are in favor of the proposed constitutional amendment?

A. I am in favor of the amendment.

Q. Suppose there were a tract of 10,000 acres purchased here, what would the purchaser pay for that to sell in small tracts?

A. I would say that a person buying 10,000 acres of land at from $50 to $60 an acre would pay a small portion down and undoubtedly cut it up into small tracts and put it on the market at $200 or more per acre, right off.

Q. Then the increase might be 400 per cent instead of 15 per cent?

A. Yes.

Q. Is it a difficult matter to sell the land at that price? What commission is paid?

A. I have had some land to sell, and we have taken the matter up with competent real estate men. They wanted 25 per cent for advertising here and in the East.

Q. In that case it is possible that the settler with very small capital will pay more to the land salesman than the land cost originally in the beginning of this development?

A. Twenty-five per cent would be more than was originally paid for the land in many cases.

Testimony of A. HOCHHEIMER, merchant, Willows, California.

A good many colonists exhausted their resources with the initial payment. A man, who through paying 50 per cent of the cost of his land thus exhausts his resources, has little chance of winning out. He may by industry, self-sacrifice, strict economy, and self-denial, possibly succeed, and in a few years be able to extricate himself. He may possibly get out a portion of his equity or even a little more. The average American is not well adapted to the present system. The people who are making a success are foreigners—Italians, Portuguese and Swiss. They will possibly succeed where Americans will not. It is impossible for the colonist in his early struggle to be generous, to better social conditions, and to take an interest in politics, good roads or public affairs. His struggle for existence takes up his undivided attention.

Raw land, previous to opening colonization, was worth from $20 to $50 an acre. Average $35 to $40. Was sold to colonists at $125 to $275, average $175. Initial payment $15, with 6 per cent on deferred payments. Period 10 years. Absolute failure is certain. It is impossible to pay interest on deferred payments and support a family off the land. The chief trouble of farmers is that they can not get a loan at fair rate and can not market their products.

Testimony of **Judge N. P. Chipman**, Sacramento California.

One trouble has been in these colonization schemes the sale of subdivisions to clerks and nonresidents—clerks scattered around over the state, who have been induced to buy on the representation that they could farm by hiring the work done, and in four or five years they would have an income, and in a short time might retire—all that sort of representation, which has no foundation in truth. I am told that the old system meant not only failure to those who were selling the land, but failure to the purchaser, because the land came back on the agents' hands, retarded sales and discouraged those who had made purchases. One who has sold land to colonists told me he hoped that the ten year installments plan might work out successfully.

Q. Must not that mean, General, the following: Isn't it the fact that the state pays for this unsuccessful man? The settler with his small capital is exploited by the system. He finds himself in due course penniless. He is thrown back into the city, perhaps, an unskilled, unemployed laborer who may become an occasional worker. And, on top of it all, in the minds of this man and his friends, farming is likely to receive a black eye.

A. The state is suffering from that condition of things today. It can not be otherwise. A stranger coming into this country, visiting one of these tracts that have been colonized, tracing the purchasers and seeing the number of subdivisions which nothing is being done with, finding that they are owned by persons living in the city and that others have gone back to the owners, and observing the state of development, a stranger can not help but come to the conclusion that he does not want to settle in this tract. And the state is suffering from it. There is a certain amount of discredit thrown upon honest representation nowadays by reason of this condition that is found in various parts of the state.

Testimony of **L. A. Nares**, manager colonization enterprises, Fresno, California.

It would certainly be a benefit to the whole state of California if land could be colonized on 6 per cent basis instead of 10 or 12 per cent basis as it is now for interest charges practically. And the price of land averages in the whole state 100 per cent over what it should be.

The fact is that it is more than 100 per cent in a great many cases. I am familiar with all the land propositions in California. I have had expert examinations made since the big failure up near San Francisco. In most of those cases the price is two or three hundred per cent higher than it should be. * * *

I think that, barring our getting rural credits, there should be some state supervision of all colonization enterprises.

Q. Sort of state colonization blue-sky law?

A. Yes; it should not be left even to as strong a board as the California Development Board. It should have for its object restriction of exploitation of land and better colonization methods. It is very difficult for even very large and influential corporations or boards of associations to any way regulate some of the exploitations that are taking place.

Q. I presume the explanation lies in the fact that these privately-organized boards have only moral influence and no legal power. You would locate legal power somewhere?

A. Yes. There has been an act before the legislature which, for some reason or other, was not approved by the Governor and not signed. The bill was introduced at the instance of the State Realty Federation; that is, the real estate men themselves wanted some power created in the state to regulate colonization enterprises. I blame the exploiters of land for a great deal of the present condition of our real estate marketing. Much exploitation has been done. In many cases the owners or exploiters of these lands were themselves taken in for not understanding conditions themselves, but they passed it on to others. A great deal of money was lost to California by exploited land enterprises; it hurt the fair name of the state very much in the East.

Testimony of ROBERT NEWTON LYNCH, secretary Chamber of Commerce, San Francisco, California.

Q. It has been pointed out by various witnesses that the underlying causes for much of the failure of our colonization schemes are as follows: First, the selection of unfit land; second, the selection of unfit settlers; third, ignorance on the part of the promoters of land colonization as to proper colonization methods, and ignorance on the part of many of the settlers or homeseekers in knowing how to plant, what to plant, and when to plant it; fourth, the excessive cost of land; fifth, insufficient capital on the part of the settlers; sixth, excessive rates of interest on borrowed money or on deferred payments; seventh, short term payments that would embarrass the settlers who were unable to meet their obligations; and eighth, improper marketing facilities. In how far do these underlying causes that have been named by various witnesses agree with your observations?

A. All of them to some extent enter into the difficulties of proper location of the right settler on the right piece of land in California. California is a state of very great resources and very great differences of quality of lands. There has been a lack of proper and accurate information on the part of the communities themselves in regard to the exact character of this land and its possibilities, and there have been many glaring cases of poor land being bought under wrong apprehensions as to its quality. The Development Board has been seeking, as almost its main work, to secure accurate information in regard to the exact quality and productiveness and types of lands throughout the state.

Q. When you speak of unfit settlers, you mean that promoters in their eagerness to dispose of land have taken anybody who had enough to make the first payment on the land, regardless of his fitness.

A. There has been a well-defined "back to the land" movement, which has been emphasized in California so as to bring many persons of no agricultural experience upon the land; generally they have gotten by very painfully or not at all; and that has contributed very much to many of the failures.

Q. The third cause is all-around ignorance on both sides.

A. California has been in the habit of advertising widely, without discretion, and has brought people upon all sorts of land in California without much regard to their adaptability.

Q. The next cause is excessive overcost of land.

A. There has been a constant, upward tendency in the price of land in California due to the fact that much land has been in the hands of promoters who sought to realize far in advance of the productiveness of the land.

Q. It has been stated to us that it has cost as much as $60 an acre for selling expense, pure and simple, to dispose of the land, the value of which in its raw state is all the way from $35 to $50 an acre.

A. The prices have been quite chaotic on some projects. They have been putting an undue burden on agriculture.

Q. The next cause is said to be insufficient capital on the part of the settler. That is, many settlers have been led to believe by literature and representations made them by promoters, that if they had money enough to make the first payment on the land, the land would do the rest.

A. Conditions in California very plainly demonstrate that under present conditions making small payments upon impossible land has almost invariably led to disaster; that people without capital have not been able to take up even government land, acquired without practically any cost at all, and make good on it, however good is the land; that the period of development requires capital, so that California, while widely advertising her land and her resources throughout the country, has no real opportunities to offer the people who must capitalize themselves; that many eager people with small capital, who have had agricultural experience, have been utterly unable to avail themselves of the opportunities offered; and that California has been denied a great many very valuable settlers.

Testimony of Mr. E. E. MANHEIM, vice president, Farmers National Bank, Fresno, California.

Q. Do you know of any man who conscientiously could invite a friend to settle in California today with a limited capital of $2,000 or $2,500, which represents his life's savings? Could he invite this friend to settle here and avail himself of the opportunities that are usually offered by the land colonization scheme, that is, 40 acres at $200 an acre, one-fifth down and the balance at two or three or four years with interest at 7 per cent or 8 per cent?

A. No.

Q. Then we know of no man that would invite a friend who was a homeseeker to come here; and on the other hand, we have the fact that there is no capitalist who would be willing to invest his money in a land colonization enterprise in California. Have we not arrived at a state of arrested rural development?

A. Yes, we are at the end. * * *

A. I have known instances almost parallel with the case you cite. In one instance the land was sold at $250 an acre; it cost originally less than $75 an acre, with 30 per cent as the cost of selling, 20 per cent for agents, and 10 per cent overhead for the cost of offices and maintaining the organization; and the seller figured that he should have 25 per cent on the sale of the land for the risk he took. Thus land that cost originally less than $75 cost the settler $250, and there were conditions under which the settler could not exist.

Q. This land then cost originally less than $75 an acre, and had added to it a burden of $75 an acre for selling cost. That would make the selling cost greater than the first cost.

A. I have owned land in another district that was divided ten or twelve years ago. It was bought and sold without selling expense; no advertising and no brokerage, and the land was sold at an average price of approximately $50 an acre for 12,000 acres. It was sold in less than two years to settlers; and most of them have made good.

Q. It has been pointed out that despite all these handicaps some have succeeded. Is it not a fact that a much greater percentage would have succeeded if they had had a different proposition?

A. I think that when excessive prices are paid by the first man and he has to relinquish the land, the next man, or at least the third man, will get the land at the proper price and be able to go ahead with the development and make a success. * * *

A. Judging from my experience, and it is practically the same as the experience of other bankers, I think that among men who have bought land here with sufficient money to get fairly started, there have been remarkably few cases of foreclosure. There were times when the farmers were slow, but it was simply a matter of giving them time.

Q. Your territory is particularly fortunate.

A. The development of the land should be on a different basis. It is almost all wrong. At present it is generally giving no chance to the settler, for the plan of repayment on short loans is impracticable and expensive. Some other method will have to be found that will not subject the settler to repayment in a few years at a high rate of interest.

Testimony of Mr. C. B. MESSENGER, editor California Cultivator, Los Angeles, California.

Q. Do you feel, Mr. Messenger, that private capital can advance sufficient credit to this field of rural credit to meet its needs?

A. No. At least, it has not. It may be that the reason the farmers could not meet the commercial rates was because of the circumstances in which they were placed. But if there is some way in which farmers can get assurances of their security, and if they can get their payments spread in a reasonable way, they will be all right; but it will have to be different from now. I had hoped the building and loan associations would help out, but they must establish a credit. When they can establish the worth of their stock they will be all right, but I do not think that their loans will be a drop in the bucket compared with the needs of development. A report of an investigation of the equipment of farmers shows that not half of them were properly equipped as to stock and implements, so that if the need for equipment should be met, you can see how much capital would be required.

Testimony of Mr. MARSHALL STINSON, lawyer and landowner, Los Angeles, California.

In this land development, first, there is the raw land, where men start out; this generally attracts a class of speculative farmers who go to the land in the hope of selling at a profit. Then comes the class of homeseekers who want to make homes; their struggles are terrific, but as a rule they fail. Third comes the type of farmer who moves to a new town. You will see him go to the bank and pretty soon he will be located on a piece of land and will be getting along. That man is the man you want to benefit. I do not know whether this plan will benefit him directly, but it will indirectly. If there is any way in which funds could be provided for the country banker I think it would be a help to let him wrestle with the problems. It all goes back to the question of marketing. I have had some experience in the last month with a man who borrowed some money to market his crop. When he had harvested the crop, the loan took all his money.

It is a serious thing to get a loan at the present time on account of the cost. For instance, if you get money from the insurance companies, you have to pay a big fee to have them look over the title; in many instances there is a loan broker who has to have a commission; and other expenses absorb all the money the man has or gets out of the crops. The man I am speaking of wanted to borrow money to harvest his crop also, and after he had the money I advised him to go down to the land himself. He did. Then I told him to go right to the local bank and explain the situation. He did, but they would not let him have money even to purchase his cans and other little things.

Testimony of EDWIN F. HARRIS, bank cashier, Commercial and Savings Bank of Stockton.

Q. I take it you are more or less familiar with the delta land. Can you tell us how much acreage there is there?

A. No, it would only be a guess on my part.

Q. The delta lands include the lands bordering on the Sacramento and San Joaquin rivers and the islands between them. Roughly speaking, about what acreage does that embrace?

A. About 500,000.

Q. What is the value of the delta lands?

A. That is pretty hard to answer.

Q. What is the minimum?

A. From $75 up.

Q. What is the maximum?

A. $300.

Q. Would the average be $200?

A. I think so.

Q. Then the value of the land is about $100,000,000. About what proportion of the land is farmed by owners and what proportion by tenants?

A. I can only guess, but I think only 25 per cent by owners and 75 per cent by tenants.

Q. Can you estimate what proportion of that 75 per cent are Orientals?

A. I should think possibly 75 per cent Orientals.

Q. 75 per cent of the 75 per cent are Orientals?

A. Yes.

Q. The farms are rented at an annual rental from year to year?

A. Yes.

Q. Has the renter any assurance of the renewal of the lease?

A. No, the average land lease is made for one year.

Q. Then, his lease of life being brief, it is reasonable to assume that he takes all that he can get out of the soil and puts back just as little as he can?

A. That is absolutely the fact.

Q. Is not that steadily depreciating the quality of the soil?

A. It surely is.

Q. What must be the ultimate?

A. Any one can see that.

Q. Then there is $100,000,000 worth of property steadily depreciating in value?

A. Yes.

Q. What is the minimum number of acres in the delta that would support in decency a white family?

A. Well, I do not know exactly.

Q. Take land in your vicinity; take a man with a wife and two or three babies. What would be the least number of acres to support him in the same manner he would support himself if he lived in the city and earned $800 a year, which is the average earning of the unskilled laborer? In other words, how many acres will he have to have to earn $800 a year?

A. Five acres.

Q. Then he certainly can on ten?

A. Well, one family can not handle ten without outside help.

Q. Suppose you have ten acres to the family; there might be 50,000 families there, might there not?

A. Yes.

Q. In other words, the land can well support 50,000 families.

A. That is right.

Q. Those could live there if they handled the land properly. It is reasonable to assume that if the man owns the land he is going to take care of it.

A. That depends on the man.

Q. Let us assume we have the right man.

A. The right man will improve the land and not let it depreciate.

Q. Then we have a great land there. How does it compare with what is said to be the richest land in the world, the land along the Nile?

A. I think, from the reports, that it runs about the highest.

Q. Then we have, practically within a stone's throw from the State Capitol, 500,000 acres of the richest land in the world, which when improved would support a very large number of people. It appears, then, that the present situation is unfortunate with this richest land in the world being steadily depreciated.

A. I feel that way about it.

Q. Would it be worth while for the state to take up and endeavor to solve the problem? If there were a way by which these renters could be replaced by white families, do you feel that it would be an advantage to the state?

A. It surely would.

Q. As you doubtless know, the commission is going through the state, seeking information and endeavoring to come in touch with those who are interested in this movement, looking at the matter from every angle so that it may use the highest intelligence in making suggestions. Now, if you have any suggestions that you would like to make to the commission that will be helpful we shall be glad to have them.

A. No, I do not know that I have. I am heartily in favor of the movement. I think the delta land is suffering a great deal from the lack of that particular thing. We have these renters, who only get a lease for one year at a very high figure, and they naturally attempt to get every dollar from the soil they can regardless of the effect on the soil. Those who are not fortunate enough to rent their land to these Orientals, in a great many cases do not farm the land at all.

Q. The present system is then impoverishing the state instead of enriching it?

A. That is the way I feel about it. There is a lack of proper cultivation, a lack of proper farmers, and a lack of proper handling.

Testimony of J. A. AGGLER, farmer, Stockton, California.

Q. For your information let me read from the record, and see if you agree with the views of Mr. Harris [began reading in the testimony of Mr. Harris, October 6, 1915, at "I take it you are more or less familiar with the delta lands"].

A. I do not think there are 25 per cent of owners.

Q. What is your estimate of the proportion farmed by owners?

A. I would not want to say; but it is very little.

Q. Ten per cent?

A. Well, I am not well acquainted with the situation, but I think 90 per cent and 10 per cent would be about right.

Q. How does his estimate of Orientals impress you?

A. I would say there are more Hindus and Italians. It is a fact that these renters only take what they can out of the soil. However, a potato farmer wants his land but one year, and then he has to move to rotate the crop; so it is not a hardship to move. They raise potatoes a year, and then beans and barley. That is the way they rotate from year to year. The Italians and the Portuguese raise beans and the Chinamen raise the potatoes, while the Americans raise the grain. Sometimes the Chinamen raise beans. [At this point Mr. Weinstock read the rest of the testimony of Mr. Harris that refers to conditions in the delta.]

Q. Is it your opinion that these lands are steadily depreciating?

A. Yes, I asked a man the other day what he was going to do when he could not raise potatoes.

Q. What acreage would support a family here, in your estimation?

A. Twenty acres would be plenty.

Q. What is your idea of the tenant situation?

A. I think that if you have farmers or settlers they would be better than these tenants. Most of the tenants are poor farmers, and an ordinary camp in the delta is 200 acres. On the Rindge tract and others there are about 200 acres in each camp, and that is too big to farm right. They make big money if they get a good crop, but if they pay cash rent and don't get a crop they will not harvest at all.

Q. Then if the renter sees that he is not going to make anything he throws up the sponge?

A. Yes, if the potatoes do not pay he will not dig the crop. Some of them rent for cash and then sublet on shares, and some of them pay a cash rental.

Q. Do you consider the present conditions satisfactory?

A. No, they are not good for the country or the man or the land.

Q. Do you agree with Mr. Harris that there is a valuable asset in the form of this rich land that is being steadily depreciated?

A. Yes, I do. A man asked me a while ago why my land was better than my neighbors and I told them it was because it was better worked. You can not burn your straw or weeds, for the land will burn up; and others don't take the trouble to get rid of them.

Q. Have you any remedy in mind to meet these problems—something which will bring about the best conditions in place of the worst conditions?

A. Have the land in small holdings.

Several hundred settlers supplemented the statistical information furnished, by a statement of their views regarding conditions and their own prospects. Four of these are given. Each is from a different colony; and they are fairly representative of the sentiment and experience of settlers in all colonies. The name of the settler and the location of the colony are withheld at the request of the settler:

Mr. ---------------------------- of -------------------- colony bought 80 acres at $185 an acre and paid cash for it. Capital at time of purchase $22,300.

Statement of settler: "In starting on raw land the land should be bought from $50 to $100 per acre for good land to allow a person to improve and pay for the land and play safe. The rate of interest should not exceed 5 per cent and the time should run from 20 to 30 years. My prospects for success at present look good owing to my being fortunate enough to keep out of debt and carry myself along while bringing the land to a state of production. No appreciable returns can be expected here on raw land short of the third season."

Mr. -------------------- of ---------------------colony bought 12½ acres at $150 per acre to be paid for within ten years.

Statement of settler: "Land was sold to me on following terms: Conditions of payment 10 per cent cash, $10 per month on principal and 6 per cent interest. When 50 per cent is paid balance is due and payable. The promoter has been *very well* paid for everything he has done here and *nothing whatever* has been done without *good pay* in sight. He has not pushed purchasers who fell back in payments. He has helped all of us to that extent. As to advice on what to plant and how, we have looked out for ourselves. Most settlers have lived by working for absent owners who have their orchards planted on contract. We have been very much handicapped by inadequate water supply. Better marketing organizations and cooperation are imperative for our success. Our colony is worth all it has cost us and will be a continued success as most orchards are well planted and well cared for."

Mr. -------------------- of ------------------- colony bought 19.1 acres for $3,000, to be paid in eight years.

Statement of settler: "I paid just twice too much for my place. It was worth just $1,500. My water contract does not give me enough water. With outside work I will eventually succeed. If I could borrow money at reasonable terms the problem would be greatly reduced and my chances would greatly increase. The company gave advice but it was no good. They also bought us cows but they were no good; so we got rid of them."

Mr. ---------------------- of ------------------- colony bought 10 acres at $200 an acre to be paid for within five years.

Statement of settler: "Our place has building restriction of $2,500 for dwelling house and this was a hardship in the first place. We commenced by putting up a shack and intended that to do for a few years, but were compelled to build the $2,500 dwelling in a year from date of settlement. We were running a general painting business during the time and continued to do so as there was nothing to make from the land for the first year, and we found by the second year that the alfalfa did very little better than the first. In my estimation our soil was too heavy for alfalfa, but we, inexperienced in farming, did not know better. And again, the contractor who checked and sowed our land for alfalfa said it was not necessary to plow it, so it was first checked, irrigated and disked before sowing, which we found later was wrong, as it should have been plowed very deep to break up the plow-pan which was very hard on the heavy soil. I can see no way of paying for this land without working at something outside of the farm, and it will be almost impossible then, because the farm is neglected when I do so. In the first place the price of the land was too high. Second, no competent advice on what was suitable for the soil and how to prepare the soil properly for the crop was given."

Private colonization unsatisfactory

The statistics of the cost of farms and the income from them, the testimony of scores of able and experienced men, the unfortunate number of settlers who have failed, the regretable misrepresentation which has characterized the operations of many land-selling agents, and the extensions of time which have had to be given by colonization enterprises, all lead to the conclusion that private colonization in this state has been costly and unsatisfactory and that some more efficient and economic system must be devised.

This brings up for discussion the causes for this failure. It is only through having these causes clearly understood that a foundation for adequate reform can be laid.

BEGINNING OF SPECULATIVE LAND COLONIZATION

Attractive field for speculation

About the beginning of this century California presented an unusually attractive field for colonization enterprises and for the speculative buyer of farm lands. The large wheat and stock ranches could be bought at very low figures. They were in the same state and often in the same county where orange groves, orchards, and vineyards were selling for prices unthought of in other parts of the United States. The question naturally arose, "What is to prevent buying these large areas and by the simple device of subdivision selling them for the far higher price being paid for small improved farms?"

In no other part of the United States was there so wide a difference between the price of improved and unimproved land. Wheat farms, already provided with water for irrigation, or which could be irrigated at a reasonable cost, could be bought for from $10 to $50 an acre. Some of these farms had the same soil and climate as the orchards and vineyards which were selling for from $100 to $1,000 an acre. The immigrant from the corn-growing states of the Middle West or from the shops and stores of Eastern cities had no conception of the amount of money and time required to convert ungraded, uncultivated land into dairy farms or orange groves. He could easily be induced to pay almost the price of the planted and producing orchard and vineyard for the unimproved wheat field. The purchase, subdivision and closer settlement of farm land became, therefore, an important business in which thousands of men were engaged.

Ignorance of cost of improving land

Real estate operators from the overdone and less profitable fields of the Middle West flocked to this new Eldorado, not to develop agriculture in California, but to exploit it. It was the paradise of the boomer because in rural advantages and attractions the state stands alone. In no other state can such a wide range of crops or so many high priced products be grown. No other state affords the farmer or fruit grower an equal opportunity to exercise intelligence and scientific knowledge in planning his work.

Agriculture exploited

SPECIAL KNOWLEDGE AND SKILL REQUIRED

To get good results, however, more is required than simply a subdivision of farms and an inflation of land prices. Not every man is suited to become an orange grower or has the habits of careful thoroughness needed in intensive culture of any kind. To create communities like Redlands in the south or the Santa Clara Valley in the north requires workers of superior intelligence. If not already trained, they must be willing to undergo an apprenticeship in a most exacting form of agriculture, which makes far greater demands in the way of knowledge and skill than is required in the fertile corn and wheat growing states of the Middle West.

COLONIZATION SHOULD BE IN ACCORD WITH PREARRANGED PLANS

The best results in California can only be secured when colonization is carried out in accordance with carefully thought out plans having in view the creation of a definite form of agriculture or horticulture. This fact has not been recognized by the speculative colonizing agent. He gave no more thought to community welfare or to the ultimate results of his enterprise than he would to the results of buying or selling grain or coal. Land to him was merchandise to be bought at the cheapest possible price and sold for as much money as the settler could be induced to pay.

Community welfare not regarded

The inevitable tendency of this kind of development is to inflate prices. To promote this inflation in California nearly every device which human ingenuity could contrive was utilized. In the end it largely defeated the primary object, which was profit, because as prices rose above productive values the number of experienced and intelligent buyers rapidly fell off. Colonization agents had to accept as settlers men less qualified to judge of opportunities and hence less fitted to succeed. The search for colonists had to be extended and the cost of finding them increased. Finally, the fishers for homeseekers began to angle for smaller fry. Instead of trying to sell a living area of 80 or 40 acres, the farm unit was cut down to 20 acres, and then to 10 and 5 acres; and finally there were colonies where one acre was assumed to provide a satisfactory income for a family.

Prices inflated; character of colonists lowered

COLONIZERS NOT DISHONEST

Relatively few of the men engaged in this business were knowingly dishonest, but the majority of them were unthinking and ignorant. They did not know, nor did they apparently care to know, how settlers were to obtain the money needed to improve and equip the farms sold them or how they were to earn a living income. The prosperity of the settler was his own affair. The land agent's business was to make money out of him rather than to make money for him. The extent to which the land agent inflated prices in carrying out this idea is illustrated by the following:

A wheat ranch was bought for $7.00 an acre. The buyer organized a syndicate composed of himself and his stenographer and sold the land to this syndicate for $100 an acre. Then as a syndicate he subdivided the land and sold it to settlers for $200 an acre. No settler who paid the outrageously inflated price could earn either the purchase price or the interest on it out of the soil. Yet strange as it may seem, sales of this character were made with ease. In part this was due to many of the buyers being also speculators. They bought these 10, 20 or 40 acre tracts exactly as they would corner lots in a boom town. They were shown how land bought for $7 an acre was selling for $200 an acre, and the prediction was made that next year it would sell for $400 an acre. This did not seem impossible. The air was full of stories of the millions made out of subdivisions. Men who were not farmers and who never expected to be farmers caught at this prospect of quick and easy money and paid a deposit on 10 or 20 acres. If there were an early rise, they sold out and took the profit. If not, they lost the first payment. Rarely did they make a second one.

Example of evil of inflated prices

First payment absorbs too much capital

For a time it was comparatively easy to sell land to Eastern farmers. They had no standard for comparing productive values in California with the kind of farming they understood. The returns from a corn field gave no indication of what could be made from an orange grove. When a buyer was told that if he had money enough to make the first payment the land would do the rest, he accepted this as reliable advice and invested nearly all his capital in a first payment. The land did the rest, which too often was to turn him adrift with the loss of his money and the gain of some disagreeable experience.

One colonization enterprise bought about 150,000 acres at an average of less than $40 an acre. The average selling price was started at about $75, but subsequently was raised to $175 an acre. The agent's commission at the higher price was 30 per cent, so that he was paid for selling the land considerably more than it cost.

Agent takes the money

On another colony project an Eastern selling agency took the contract of disposing of the land for a commission of 20 per cent on the selling price. No limit was placed on the price the agent could ask; so the price of farms which had been selling for $150 an acre was raised to $400 an acre and the agents thereby more than doubled their commissions. As the terms of the sale were one-fifth cash, balance in four yearly installments, the selling agent took all the first payment and sought to induce the settler to buy enough land to absorb all his capital. When this was done, the agent pocketed the whole as a commission for making the sale. When the project area was all sold the owner held the contracts of a lot of moneyless, inexperienced people who were a liability rather than an asset. *The selling agent had all the coin.*

Lack of Business Judgment on the Part of Settlers

No regard for quality of land

At first colonization companies sought land and good conditions in other respects. Later companies were organized which held that all lands looked alike. The main question was price. One who was seeking a ranch to exploit asked where in the great valleys of the state he could buy 5,000 acres at $25 an acre. He was told that only hardpan and alkali land could be bought for that price. The reply was that the quality of land made no difference; any kind of land which could be bought for $25 an acre could be colonized. One tract of hog-wallow, hardpan land in the Oakdale district was subdivided and traded for houses and lots in Los Angeles. Only three purchasers remain in that colony. Probably not one of them had any intention of remaining. Each one sold a house at a high price and was paid in land at a higher price.

In another district a tract of "goose" land sold one year for $5.00 an acre, the next year for $15 an acre, and was then subdivided and sold as garden soil for $125 an acre. Three brothers who were market gardeners bought farms there and moved on with their families. They found when the soil was wet it was a quagmire and when it was dry it could only be cultivated with dynamite. In three years time they had not raised enough to keep a goat alive and had to abandon their homes, losing their money and time and carrying with them a bitter feeling of injustice and wrong.

Colonists' lack of business judgment

The lack of prudence and business judgment shown by colonists was amazing. One with a capital of $1,575 paid $1,500 of it as a first payment on a farm costing $7,500. He had $75 left with which to build a house, buy a team and farm equipment and pay living expenses until a crop could be grown. Surrendering the $1,500 is as far as he ever got towards becoming a farmer in California. Another colonist landed in one of the settlements with a wife, four small children and $1,100. The day he arrived he turned over $1,000 of his $1,100 as a one-fifth payment on 40 acres of land. At night he had $100 in cash and a debt of $4,000. He faced a large expenditure for house, team, tools, preparation of the soil for cultivation, all of which must be made before he could earn a living from the land. Away from the persuasive magic of the agent, he realized how impossible was the task and the next morning he applied to the owner of the land for the return of his money. The owner told him that all of the first payment had been pocketed by the agent as commission, and that not only had the landowner received nothing out of the $1,000, but on the contrary owed the agent $500 because he had agreed to pay 30 per cent commission on the selling price. This settler and his family also gave up home making in California and spent their remaining $100 in getting out of the state.

Where Landowners Sold Directly to Settlers Results Usually Satisfactory

It is to the credit of some California landowners that they were not carried away by this speculative inflation, but continued to sell land at relatively low prices and to sell only to those who were believed to have a reasonable chance of success. Later on some instances of this will be given. We are now dealing with those features of unregulated colonization which show the need for state supervision.

Misrepresentation due to agents

Few of the colony lands of California have been sold directly by the owners. In most cases subdivision and sale was entrusted to a selling agent and he in turn employed many assistants or divided his commission with others. Many of those with whom the colonist dealt were itinerant and irresponsible and most of the misrepresentation and disregard of settlers' interests were due to these subordinates.

Where landowners have dealt directly with settlers, there has been little complaint and there are notable instances where the owner has assumed a moral responsibility for the settler's success, although there was no legal liability.

EXCESSIVE COMMISSIONS TO AGENTS

In time there were more farms than colonists. The number of homeseekers was falling off. The percentage who bought was declining. It took more money, time, and ability to sell land for $150 to $300 an acre than to sell it for one-third these figures. To meet the greater expenses commissions rose from 5 per cent and 10 per cent to 20 per cent and 30 per cent and even 40 per cent of the selling price. In one colony where the land before subdivision was offered for sale for $40 an acre, the agent's commission after subdivision was $80 an acre.

SPECULATIVE SETTLEMENT HAS ENDED

This speculative colonization, which began about 1900 and reached its culmination about fifteen years later, has now run its course. It worked infinite harm to many honest, industrious, but oversanguine and credulous homeseekers. It interrupted and changed the character of the conservative and successful development which was going on when it began. It has enabled nonresident speculators to take away from the state millions of dollars as the profits of an unwarranted inflation of prices and it has caused or will cause anxiety and heavy losses to many landowners who are depending on settlers without either capital or experience to pay off mortgages. It has left a legacy of high land prices which threatens to be a heavy economic burden on the state. Practical, experienced farmers will not come to California if land of equal productive value in other states is cheaper.

Results of speculation: Higher prices for products or lower standard of living

Cheap production goes with cheap land. High land prices mean higher taxes and larger interest charges. These have to be paid through higher prices for products or a lower standard of living for farmers. The milk producers who supply San Francisco are asking a higher price for milk. In showing the need for this one dairyman explained that ten years ago he only paid $800 a year rent for the land on which his dairy herd feeds. Later on this rent was raised to $1,700 a year; and he has now notice of an increase to $2,500 a year. The owner of the land has made no improvements; it produces less food for the dairy herd than it did when the rent was low. In this case the rental cost has been raised $1,700 a year. The only way to increase the income is by raising the price of milk. In this case, and in many other cases which have been brought to our attention, higher rent means higher cost of food.

Where these results are due to speculative manipulation of land prices they are an economic evil with no compensating public advantage.

WHY COLONIZATION IN CALIFORNIA SHOULD BE UNDER PUBLIC CONTROL

Expert advice needed by settlers

In the greater part of the United States there has been little need of public supervision of rural development. The kind of crops which can be grown or the preliminary outlay required are both restricted to such narrow limits that little variation in methods is possible. It is otherwise in California. Here much of the best land has to be irrigated, a large percentage needs to be drained, and some has to be protected against floods. Every acre of irrigated land must have a right to water and the character of that right is about as important as the validity of the land title. To prepare some areas properly for settlement involves an immense expenditure of money. Ultimate results depend quite largely on the honesty and efficiency of those in charge. Some colonization enterprises have not taken their obligations in these matters as seriously as they should.

It is practically impossible for an immigrant from a humid section to protect himself from misrepresentation in this matter. A native son finds it difficult. One who bought land guaranteed to have an ample water supply for irrigation with an undisputed right thereto found after purchase that the supply was good, but was 300 feet below the surface, and the water right was unquestioned because no one could afford to dig for it.

SPECIAL NEED FOR PUBLIC SUPERVISION OF COLONY PLANS IN IRRIGATED AREAS

Water and climate, as well as soil, influence the value of agricultural land in much of California. Wherever irrigation is required colony plans should provide for the efficient use of streams. The need for this has not been realized in the past because when the demands on streams are small economical use is ignored. But as the irrigated area extends and population increases, so does the demand for water increase, and the struggle for its control increases in a like measure.

Coordinated action necessary

In great irrigable areas like the San Joaquin and the Sacramento valleys all agricultural development will in time be bound together by a common dependence on the streams. For this reason the ultimate results will be more satisfactory if colonization is carried out in accordance with a carefully thought out plan which will embrace all the irrigable land in each watershed. Confusion is coming upon us because we are working without direction, cooperation or plan.

Nowhere is the need for coordinated action more clearly shown than under the Crocker-Huffman canal. This water system can be made to irrigate a hundred thousand acres of land. Although privately owned, its magnitude and the number of people dependent upon it gives it a public character. From time to time individuals or companies have bought tracts of land varying from a few hundred to several thousand acres, subdivided them, made a contract with the Crocker-Huffman Company for water, and then sold the land with a water right to colonists. *There are now fifty-two colonies under this system.* These have no organic relation to each other and no voice in the management of the canal. The water right agreements in the different colonies are not the same and the prices paid for water vary widely. As a result there is much friction which has led to litigation and threatens more. It would be better for all concerned if there were one water right contract, one charge, and a management in which all irrigators could participate. In other words, what began as a private undertaking has by its growth assumed a public character, in which necessary adjustments are far more difficult to make than they would have been if thought out in the beginning.

Example of lack of coordination Crocker-Huffman canal

This situation might be ignored if we were nearing the end of development. But we are only in the beginning. On nearly every tributary of the San Joaquin and Sacramento rivers there are similar conditions. There is probably no other canal which supplies fifty-two colonies. There are, however, irrigation districts and irrigation systems, each with a large number of colonies operating without relation to each other and nearly all of them feeling a need for coordination, for uniformity, for more efficient distribution and, looming in the near future, for the need for an immense expenditure of money in the construction of storage works. These works ought to be built, but the difficulty is to get the unorganized colonies to agree, and in the absence of agreement to secure money at reasonable rates of interest.

Crocker-Huffman situation typical

It has been proposed that the state guarantee bonds and provide this money, and the lower rate of interest which this would insure justifies its careful consideration. But before that is undertaken the whole plan of development, the location of lands to be irrigated and a definite conclusion as to how canal systems ought to be operated should be thought out, this being all a part of the general problem of colonization.

NEED FOR ADVICE ABOUT SOIL AND CLIMATE

Variations in soil

The quality of the soil in California varies greatly and abruptly. There are quarter sections of land of which parts are rented for $20 an acre and parts will not rent for $1.00 an acre. On one side of the fence land sells for $150 an acre and is worth the price. On the other side it is not worth $10 an acre. The settler should not be left to find out these facts after having parted with his money. There ought to be a soil survey of all colony lands.

Influence of climate

From Maine to the borders of California the buyer of a farm knows or can easily learn the limit which climate puts on the crops he can grow. He knows that there is a summer season of seed time and harvest and a winter season of stagnation. In California he finds all these climatic limitations set aside. In much of the state there is no dead season. Crops can be planted every month of the year. Temperature ceases to be controlled by latitude and oranges ripen as early and as surely at Oroville in northern California as at Riverside in southern California. Elevation, on the contrary, exercises an influence not realized by most settlers. At a certain elevation the land may have a high value for citrus fruits, because it is in the frostless belt; 100 feet below frosts may make the growing of oranges too hazardous to be profitable.

Best results obtained by organization

The factors of soil, climate, water supply, and markets, which affect the value of land and the well-being of settlers, are so important that they make of colonization a scientific problem. The best results to the state can only be secured by recognizing this and invoking and using scientific knowledge in shaping our future development. The nature of land ownership and the need for community organization for the distribution of irrigating water, for drainage, and for the marketing of crops requires that at the basis of all colonies there should be a sound economic and social organization. It is largely because we have not recognized this that 73 per cent of California's growth in population during the five years from 1910 to 1915 was in the cities, and that the increase in the farming population was so small as to be disquieting. Rural settlement is not keeping pace with the city settlement, although each year immense sums of money are spent by railroads, counties, and commercial bodies in calling attention to the attractions of rural California.

REASON FOR DECREASE IN RATE OF SETTLEMENT

High price of unimproved land

The falling off in the number of landseekers in the last two or three years has not been confined to California. It has been equally marked in other Western states. The principal reason for it everywhere is the high price of unimproved land. With a suddenness that prevents our realizing it, we have reached a situation in Western irrigation districts where a man with from $1,000 to $3,000 capital has no better chance of becoming a farm owner than did the peasant farmer in Europe a generation ago. The acreage cost of the irrigated farm in many new sparsely settled districts, is greater than the acreage cost of farms in the densely peopled sections of England and Germany. The purchase of farms has therefore become too costly for the men who most need them and who will make the best use of them.

Man of small means can not purchase

For a time, in California as in other states, the colonist with limited capital believed that he could continue to do what the man who had obtained free public land had done, that is, pay for a farm by his unaided efforts. But land which costs from $100 to $150 an acre in its unimproved state must be better farmed in order to pay interest on the higher cost. This in turn means a better equipment and a larger initial expenditure. The man with small means is therefore leaving the country or becoming a tenant farmer.

Difficulties lead to decline in number of purchasers

As the price of land rises fewer persons want to purchase. The land hunger is as great as ever, as is shown by the rush for public land whenever it is offered. The decline in settlement is due to the fact that the difficulties and hazards of paying for high-priced land are better understood. We must therefore be content with a slow increase in rural population or provide better credit facilities for settlers of small capital.

CHARACTER AND ABILITY OF SETTLERS IMPORTANT

One feature of colonization which this state can not afford to overlook is the need for action which will insure that the quality of its colonists is not impaired. The first settlers of California were a superior body of men and women, enterprising, intelligent and patriotic. They represented all that was best in American character. Owing to this fact California has become a great state, a leader among states in its social and political institutions, no less than in the charm and attractiveness of its rural life. It would be a calamity if that leadership should be lost by impairment of the quality of rural communities. This, it is feared, may be expected if we continue to seek as colonists men who are able and willing to pay a high price for land because they have a narrow view of life and are contented with a low standard of living.

Colonists of high quality are necessary for welfare of state

The character and the ability of settlers are of more importance than their number. No one can estimate the value to California of Professor Hilgard, Elwood Cooper, or Luther Burbank. No one can determine how much New England gained from the high character of the settlers in Plymouth. The ideals and the high moral purpose of the settlers in the Western Reserve in Ohio did much to make that state a breeding ground for presidents. The Greeley colony in Colorado did more than perpetuate the name of a great editor. It made irrigated agriculture and the creation of beautiful homes in the Rocky Mountain region a concrete reality and helped to check the vicious acquirement of the public domain by speculators.

The character of our colonists will do more than any other single influence to make California an attractive place to live in or a good place to avoid. They will be voters. Their children will fill the rural schools, on which we are now spending annually about $6,500,000 to help to create good citizens. Our success in this will depend quite largely on the kind of homes the children come from and the civic ideals which their parents seek to establish. This political side of colonization has not been given the attention it deserves. Steadiness and sanity in our political life depend quite largely on the influence and the intelligence of the country voter.

PART III

PROBLEMS OF TENANTRY AND FARM LABOR

Growing Menace of Tenant Farming

Early tenants Americans

On account of the great landed estates tenant farming has always had an important place in the agriculture of California, but with the rise in land prices and the adoption of intensive cultivation it has taken on a new and less desirable aspect. In the earlier history of California the tenant farmer was usually an integral part of the community. He was an American with an interest in national, state, and local affairs, as ready as the landowner to work for the upbuilding of the neighborhood.

Increase of foreign tenants of low standards

In recent years, however, there have been growing up in California tenant communities made up almost entirely of Asiatics or of peasants from those portions of Europe where life is sordid and the standards of living are low. These tenants have no interest in community needs. They maintain their racial indifference and aloofness. They are not a contribution to our political or social strength. They are willing and able to pay high rents, not because their methods of farming are better, though as a rule they are good farmers, but because they live more frugally than the American or the immigrant from Northern Europe. In other words, while Northern Europe is lifting the peasant farmers into a more independent and generous life, California is creating conditions which are in some cases worse than those of the European peasant, because the European landlord had certain obligations founded on feudal customs and supported by public opinion which do not exist here.

Contrast between America and England

"The English landowner who deprived an old tenant of possession because a new tenant was ready and able to pay a higher rental forfeited social consideration. In America the landowner was subject to no such restriction. If he rented his land he was expected to get what he could. If he sold it he was expected to sell it at the highest price obtainable. As long as he did not rent his property to people who would use it for immoral purposes, or sell it to notoriously undesirable citizens, the public would not condemn him for seeking the best market he could get." Hadley: *"Undercurrents in American Politics"* (p. 60).

It is undoubtedly true that many landowners can obtain a higher return from their land by renting it than in any other way. It is probably true, also, that the class of people who form the bulk of the tenantry are living better than ever before. But this does not mean the kind of community life which is being created is desirable or that the sort of development which is going on can become permanent or be extended without lowering the standard of this state's civilization.

Community life of tenants undesirable

This seems an appropriate place to quote a portion of the report of Mr. T. Chamberlain, one of the graduate-student investigators on conditions in Placer County.

TENANTRY FROM A BUSINESS STANDPOINT

"If we consider that business is good wherever money is being made, then we must say that business is good in the fruit belt, for it is customary for owners to make 10 per cent and even 15 per cent on their investment. One owner states that any man with a 40-acre ranch can rent to Japanese and make from $1,200 to $2,000 a year without ever going near it. Several owners stated that they would not be able to make money without the Japanese and said that before the Japanese came the fruit business was not as profitable as it is now.

Tenantry from business standpoint profitable

"When the owner makes money the tenant also prospers. Mr. Snelling, who superintends twenty-two ranches, states that the tenants average $1,000 a year. A number of Japanese tenants have become quite wealthy and have returned to Japan.

"From a money-making standpoint, the present system of tenantry seems satisfactory to both the tenants and the owners."

TENANTRY FROM A SOCIAL STANDPOINT

"There can be no more conclusive proof of the need for a sound policy of land settlement than the social conditions which prevail at the present time in the Placer County fruit belt.

"In the vicinity of Penryn there are eight ranches being run by owners, while sixty are rented. Although the proportion of rented ranches in other sections is smaller, fully 50 per cent of the ranches for the entire fruit belt are rented. There are about twenty ranches in the vicinity of Penryn whose owners live outside the county. The resident owners in many cases work elsewhere. It is a common experience to find four or five fruit ranch owners working for a salary in a fruit house. Some of the town people say a man can not get a job in a fruit house unless he owns a ranch and ships his fruit through the house affording him employment. Among the owners who are not employed off the ranches, some spend their time in improving their places, attending to the irrigation, and even working for their own tenants for wages, but the greater number spend their time in their automobiles.

Tenantry from social standpoint deplorable

"Not only is the problem one of *tenancy* and *absentee landlordism*, but the question of the large landowner enters in. In the Penryn district one company owns sixteen ranches and rents six more. All these ranches are rented to Japanese and a superintendent spends his time motoring from one ranch to another. A number of other ranchers own from two to six places. Five men in the Penryn district own twenty ranches between them.

"The result of these rented ranches, absent landlords, and large holdings is a most deplorable social condition. After looking out over the country surrounding Penryn and seeing the luxuriant development of the fruit ranches and the many large residences, one expects to find a prosperous and thriving community. But on investigation it is found that almost all of these large houses are vacant and in place of a prosperous town there is only a lingering memory of conditions as they used to be. The owners who previously worked their own places and built these homes have now rented to the Japanese and moved elsewhere to live. It is confidently stated by older residents that Penryn was a better town twenty years ago when the surrounding country had not even approached its present development. Socially, the community is dead."

What is known as the Delta District in California is perhaps one of the richest tracts of farming land in the United States. With its climatic advantages, it ought to be one of the most progressive and prosperous rural communities to be found anywhere. Material advantages in the way of soil and climate ought to produce desirable social and economic conditions. If they do not, there is evidence of something wrong in our policy.

Social and economic conditions of Delta District bad

This Delta District has an area of approximately 300,000 acres. On it are a few fine homes, nearly all of them vacant because the owners have given them up and departed for the city. This rich district is practically given over to tenants. They live in tents or houses that are unsanitary and devoid of beauty or conveniences. They pay rents that compare unfavorably with some of the examples of rack rented tenant farming in Europe. All of the leases are for a short time, usually from one to three years, with some extending over five years. Thus the great body of cultivators have no interest in community welfare. Besides, they are mainly aliens, Japanese, Chinese, Hindus, and Portuguese predominating. None of these tenants give any attention to maintaining the fertility of the soil; as a rule there is no rotation of crops. The land is cultivated until it becomes unprofitable and then the tenant moves. The summary in Mr. Edwin E. Cox's report serves to render it apparent to any one who regards California otherwise than simply as a place to make money that tenant farming here is even less desirable than in other parts of this country:

> "Aside from the rapidly growing Asiatic element that can not be assimilated, the white contingent of California's tenant class are generally living under conditions inimical to democratic citizenship. The tenant's children can not make the desired progress in education, as they are constantly moving from one school district to another. The parents, because of their transitory life, take little interest in the schools; first, for failure to appreciate their value, and, secondly, because the children are obliged to help in the exacting routine of the family's existence. Neighborhood solidarity, so important in communities of home owners, is seriously lacking in sections given over to tenantry and the commonwealth must correspondingly suffer.
>
> "In addition to the social disadvantage of our admixture of Oriental and transitory white tenantry, their economic condition is even worse, because as this report shows, the average tenant, whether growing decidious fruits, grain, or vegetables, is wholly at the mercy of the commission man. From one to three or four liens frequently cover his crop before it is harvested, and lack of a certain permanency as well as want of money causes him to rob the soil of its fertility, prevents eradication of pests, and lastly, compels him to 'dump' his produce into the hands of the commission man at harvest time at the latter's price (usually the lowest of the year), leaving the tenant little better off financially than the year before, with no recourse but that of trying again next year, perhaps in a new location."

BETTER PROVISIONS FOR FARM LABOR

Intelligent, reliable farm labor is a growing need of agriculture in practically every country. Men of superior qualifications are needed to look after blooded live stock, to care for orchards and vineyards, and to do the work which requires interest, knowledge, and skill on the part of the laborer. It is becoming increasingly difficult to keep men of this type on the farm because of the constantly increased wages and greater opportunities of the city.

Need for intelligent farm labor

Everywhere it is recognized that this is one of the most difficult problems connected with agricultural progress. Under the best possible conditions there are serious drawbacks to farm labor which tend to drive good men away from it. There is difficulty in providing employment throughout the year. It is impossible to pay as high wages as are now paid artisans in the cities. When to this is added social ostracism or at least a position of social inferiority compared to city workers it is inevitable that the best American workers will leave the farm.

The drawbacks to farm labor

On the other hand, it is feasible to create conditions which will make life as a farm worker more desirable and as profitable to those with families as is the life of the unskilled laborer or average artisan in cities. This has been demonstrated in Ireland, Denmark, Germany, and Australia. It has been accomplished in these and other countries by enabling the laborer to own his home. In Germany these homes include from one acre to five acres of land. Such an area in the language of a government report, "permits of the cultivation of the wheat, potatoes and vegetables for the household and of the rearing of a few pigs; for milk, goats are kept and sometimes even a cow. It has, besides, the great advantage that it may be cultivated by the wife and children and does not prevent the laborer from working elsewhere. A larger holding, on the contrary, might easily induce him to neglect his paid labor."

Feasibility of satisfactory farm labor shown by other countries

Thousands of farm laborers' homes have been built by the Home Colonization Company, of Germany, a government body. They cost on an average of about $1,000 each. The laborer generally pays from 10 per cent to 20 per cent of the purchase price in cash. The rest is met by amortized payments. The cost of the land, according to the reports of 1912, has averaged $135 an acre. Since 1913 a great many farm laborers' homes have also been provided by local colonization companies, which have government aid. Criticism is not directed against the extent of this activity but against the failure to move fast enough. Great difficulty is experienced in preventing the inflation of land prices. To prevent inflation the government has enacted a law authorizing the compulsory purchase of 175,000 acres of land for closer settlement by farmers and laborers. The war, however, has interrupted progress.

In Germany

In Australia, where natural conditions are like ours, there are great areas of unpeopled land. But the earlier nomadic and unreliable farm labor is happily disappearing in the areas which are being settled under the state system of colonization.

In Australia

The first steps in this reform were made in the irrigated settlements. In these, two-acre homes for farm laborers are dotted all over the areas. Frequently four homes are grouped at road crossings. On these two-acre allotments, the state builds, when required, cheap but comfortable three or four-room houses and sells the land and houses to farm workers who show evidences of industry, experience, and character and who desire and expect to make most of their living working for wages. Only a nominal cash payment is required and at least twenty years time with a low rate of interest is given in which to complete payments.

The laborer obtaining a home under this plan can keep a cow, some pigs, and poultry. He can grow his own vegetables and thus greatly reduce the cost of living. It gives to his wife and children a sense of security and independence. To them the state becomes a benefactor. They love it for what it has done for them.

No single feature of the Australian system of closer settlement has been more popular or useful than the two-acre farm laborers' homes in the irrigation areas. The laborers are contented. They are beautifying their homes and are meeting their payments. They provide reliable, casual help for neighboring farmers and farmers' wives. The children are a valuable aid in the rush of the fruit picking season. Over 8,000 acres have been absorbed in farm laborers' allotments in the closer settlements of the state of Victoria, Australia; and the state is being asked to buy land to increase the number. The farmers who ask for this guarantee permanent employment.

In England, Ireland, Denmark, and Italy thousands of such homes have been provided for farm laborers. Their condition and their character have been immensely improved by the independence and the security which come with owning their homes and little patches of land.

Importance of farm laborer as citizen and voter

One regrettable feature of all American rural life is the failure to recognize as fully as is desirable the importance of the farm laborer as a citizen and a voter. On his character and intelligence depends quite largely the productive value of land; and in many sections he does much to make rural communities socially desirable or the reverse. We are giving a great deal of attention to the efficiency of the industrial worker and to the conditions which govern his hours of liberty, his mode of living, and his competency. We should give the same attention to the farm laborer in even a greater degree. What he needs is to have a definite and self-respecting position. It ought to be possible for the farm laborer to marry, have a comfortable home for his family, and bring up his children as self-respecting members of the community. This is now not even remotely possible.

Present conditions of farm laborer a menace

The conditions of the farm laborer, as disclosed by the investigation of the State Immigration and Housing Commission, are a menace to our industrial future and a sorry commentary on our claim to economic equality. It shows that our farm labor is made up of a welter of nationalities.

> The list includes Albanians, East Indians, Filipinos, Greeks, Spaniards, Slavonians, Russians, Mexicans, Maltese, Japanese, Chinese, Portuguese, Armenians, Italians, a few Scotchmen and Germans, and here and there an American. Of these 60 per cent are migratory and 40 per cent are local, with jobs averaging from 10 to 15

> days in length. The hours of labor are from 10 to 16. Too often they are poorly housed. Sometimes they are not housed at all; instead, they may lodge in the mesquite bush or the haystack. There is a deep-seated prejudice against American and other white farm laborers. The percentage of Japanese and Hindus is becoming larger.

The degeneration of white laborers under these conditions is inevitable. Many of them become hoboes. They lose all ambition and all regard for the interests of their employers. The sections of cities where this kind of labor congregates are injuriously affected. As a class they are discontented. With their continuous tendency towards disturbance they are a menace to political and social peace.

The remedy in conditions which will attract dependable white people

The remedy for this is to make conditions which will attract dependable white people, especially Americans. We can not go on creating bad conditions of life and seeking people who are indifferent to those conditions without destroying our rural civilization. When we read of the German organizations providing little plots of ground for the laborers, and building them comfortable and sanitary houses at the cost of $1,000; when we read of one Australian state far poorer than California and with less than half our population providing 6,000 homes for laborers and 4,000 houses for farmers; we realize how far we have fallen behind the rest of the world in our understanding of rural needs and in our measures to elevate rural society.

PART IV

METHODS AND POLICIES OF OTHER COUNTRIES

Other countries have adopted land settlement policies

Since the beginning of this century Great Britain, Denmark, Norway, Sweden, Germany, Russia, Austria, Italy, the six Australian states, New Zealand, British and German South Africa, Brazil, Venezuela, and Uruguay have either adopted or greatly extended a land settlement policy which aims to give settlers homes at the least possible cost and also to finance the settler who is a good moral risk, so as to enable any one who is frugal, industrious and ambitious to own a home. The reasons which have induced all these countries to regard colonization as a public matter are well expressed in a recent report of the German government.

Reasons: Speculation

"Colonization has been made a public matter," says this report, "because when it was a private matter persons bought land without having funds to pay for it, only to make a profit by selling it again at the first opportunity. Unprincipled middlemen persuaded owners to part with their lands and other professional subdividers of land sometimes unscrupulously dismembered holdings with an utter disregard for economics; and the consequence has been a continual increase in the price of land."

Evil of large landed estates

"* * * While every other part of the country exerted itself to the utmost to strengthen and augment its agricultural resources by increasing and elevating its rural population, it can not be considered encouraging that in eastern Germany there are vast territories almost wholly in the hands of a few landed proprietors. The existence of such large landed estates not only hinders the natural progress of the peasant class, but, greatest evil of all, it is the principal cause of the diminished population of many territories because the working classes, finding no chances of moral or economic improvement, are driven to emigrate to the great cities and manufacturing districts. Scientific researches also prove that small farms nowadays are more profitable than large; above all, small live stock improved farms, the importance of which for the nutriment of the people is constantly increasing."

Change necessary for national efficiency

In these widely separated countries land settlement was not dealt with as a public matter until it became manifest that nonresident ownership and tenant cultivators were dangerous sources of social and political unrest. In Europe the peasant who wanted to own his own farm was leaving for other countries where land was cheap or the conditions of purchase favorable. So many of the people in the rural districts were leaving, and so many of those who remained were restless and discontented that some means of changing conditions were essential to national efficiency, if not to national preservation.

In Ireland the purchase of landed estates and the subdividing and selling to tenants was forced on the government as the only means of stopping ruinous emigration and dangerous political agitation. In Denmark estates were subdivided to provide for the surplus farm population and to prevent a costly exodus to other countries. In central Italy discontent with tenant conditions on feudal estates had caused large areas to be practically depopulated. Cattle were being pastured where land was formerly intensively cultivated. The result has been the evolution of a system, which, while it varies somewhat in detail, has certain essential features common to all these countries.

ESSENTIAL FEATURES OF SYSTEMS

Small initial payments. The first of these essentials is a provision for enabling farmers to enter into possession of land with only a nominal payment, thus leaving the greater part of their capital available to pay for improvements and equipment.

Organized construction of farm improvements. The second is the creation of an organization, either state or private, to make the necessary improvements, such as houses, stables, etc., leveling and ditching irrigated land, and providing practical superintendence over the farming operations of beginners to prevent costly delays and mistakes.

Long-time payments for land and improvements. The third is making the period of payments long enough to enable the money to be earned out of the soil, and having the payments amortized, that is, in small amounts paid annually or semiannually rather than in a lump sum; also securing for the settler, usually through the use of the state's credit, loans of money needed for improvements at low rates of interest.

Practical advice and supervision for beginners. The fourth is the employment of capable business men fully informed regarding prices of farm equipment and farming operations in the locality to give advice to inexperienced beginners or farmers from other sections of the country who do not know what crops to plant or when or how they should be cultivated.

This local director of a colony can be of great service in bringing about cooperative arrangements in buying and selling. It is part of his duty to watch the operations of colonists so as to be able to inform those who are responsible for extending credit which colonists are industrious and trying to succeed and which are idle and impractical. Such supervision is an essential feature of any system which gives generous personal credit.

State-aided settlement everywhere successful

This state-aided settlement has everywhere been remarkably successful. It was inaugurated to enable men who had industry and thrift, and little else, to become landowners. At the outset men predicted that it would entail heavy costs to the taxpayers. But, on the contrary, the conditions of payment have been so well adjusted to the profits of agriculture that in nearly all countries state-aided settlements have been self-supporting, and in some cases they have earned a profit. They have, moreover, revolutionized rural conditions. The statements of the Canadian Commission about the effects of the New Zealand system on rural life indicate equally well the effects of the systems of Ireland, Denmark, Germany, and practically all the other countries in which state aid in land settlement is in practice. The statements of the commission follow:

"With money available on terms suitable to the industry, the farmers have built better houses or remodeled their old ones; brought a large acreage of land under cultivation that would otherwise be lying idle; have bought and kept better live stock; have bought and used more labor-saving machinery on the farms and in the houses; have erected elevated tanks and windmills; have piped water to their dwellings and to their outbuildings; have irrigation for their vegetable and flower gardens around the houses; and have increased their dairy herds. They keep more sheep and pigs and have so largely increased the revenue from their farms that they are able to meet the payments on the mortgages and to adopt a higher standard of living, and a better one. Throughout the country a higher and better civilization is gradually being evolved; the young men and women who are growing up are happy and contented to remain at home on the farms, and find ample time and opportunity for recreation and entertainment of a kind more wholesome and elevating than can be obtained in the cities."

Reforms can not be ignored

It is impossible for us to ignore the importance of this evolution and unwise for us to disregard the reforms which have worked so well elsewhere. Furthermore, the effect of reforms in other countries is already manifest here. The number of desirable immigrants to the United States is being restricted. Settlers are being attracted from the United States to other countries.

STATE-AIDED LAND SETTLEMENT IN OTHER COUNTRIES

The following brief outline will serve to give an idea of the essential features of different state systems:

Essential features of system in Ireland

Ireland. In Ireland 9,000,000 acres of land have been purchased by the British Government since 1903. After the purchase this land was subdivided into small farms on which the necessary houses and other improvements were erected. These ready-made farms were then sold, mainly to former tenants, at *an average price of about $50 an acre,* the buyer to have sixty-eight years in which to pay for the farm and the improvements, with 3½ per cent interest on deferred payments. The report of the Industrial Relations Commission speaks as follows of the transformation resulting in Ireland from the state aid policy:

"For many generations Ireland was one of the most distressed countries in the world. All of its evils were due primarily to absentee landlords and farm tenants. But within the last decade a wonderful change has taken place in the social and economic condition of the Irish peasant, brought about by the enactment by parliament of what has since become known as the Irish land bill. This act created a royal commission, with power to appraise the large Irish land estates owned by absentee landlords, at their real and not at their speculative value, to buy them in the name of the government at the appraised value, plus 12 per cent bonus, to cut them up into small parcels, to sell them to worthy farm tenants, giving some seventy years time in which to make small annual payments on the amortization plan, the deferred payments bearing but 3 per cent interest. In addition to this, the government made personal loans to peasants sufficient to cover the cost of stock and farm implements, also payable in small annual installments bearing a minimum rate of interest. The government further furnished the various farm districts with farm advisers, trained graduates from agricultural colleges, who act as friend, adviser, and scientific farm instructor to the peasants. Within a decade the wretched and more or less lawbreaking farm tenant has been converted into an industrious, progressive and law-abiding landed proprietor; in fact, he has become so law-abiding that many jails in the farming districts, formerly filled with agrarian criminals, have been converted into public schools."

Essential features of systems in England and Scotland

England and Scotland. Just prior to the outbreak of the present war, the government of Great Britain had agreed to provide a land settlement policy for Scotland similar to that now operating in Ireland. Since the war began a parliamentary commission has been studying the subject in England with a view to providing, by public purchase and subdivision, farm lands for returning soldiers, these lands to be sold to soldiers on long-time terms with amortized payments and with low rates of interest.

Already much has been done in England to provide farms for tenants under the Small Holdings Act passed in 1908. Under this act estates are being purchased by the county councils, subdivided into small farms, and sold or rented to poor people. These farms are first improved by the erection of houses and other farm conveniences and then sold at a slight increase on the purchase price.

Settlers are given from thirty to fifty years time with interest on deferred payments at 4 per cent.

The significant fact is the price at which the government buys this land. In England the average price has been $160 an acre; in Wales $105 an acre. For $150 an acre highly improved farms are being bought privately within thirty miles of the great retail markets of London.

Essential features of system in Denmark

Denmark. In 1899 the Danish Government, to prevent further and ruinous emigration, began buying and subdividing large estates and selling them to those of its people who had the necessary evidences of character and farming experience and who were able to pay *one-tenth* the cost of the land and improvements. The government, according to the last statistics available, has bought this land at an average price of $71.65 an acre. The settler is given from fifty to seventy-five years in which to repay this price, with an interest rate of from 3 to 4 per cent; and in some instances there is to be no payment of interest for the first five years.

In recent years there has been much private subdivision, carried on under public supervision. Associations formed for this purpose buy large farms and then subdivide and sell them to settlers at prices approved by the government, which guarantees loans made by land banks to assist buyers to complete their payments. The average purchase price of land so bought on the islands was $102.04 and on the mainland $61.15 an acre.

Essential features of system in Germany

Germany. Beginning in 1886, the German Government entered on a state system of colonization which today represents one of the greatest agrarian reforms of that empire. It was inaugurated in the face of bitter opposition from the large landholders. They saw their political prestige menaced by a movement that was to change a society having a landed aristocracy at one end of the scale and a poverty-stricken, discontented peasantry at the other into a society made up principally of a middle class.

Land settlement in Germany is now being carried on by two different authorities. The first is the *Home Colonization Commission* created to increase the number of German farmers in east Prussia and Poland. The other is a combination of state and local authorities which promotes and manages land subdivision and settlement in all parts of the empire. The local members of these associations usually include representatives of the local government and of the rural credit banks. One-half of the funds for these associations is contributed by the state and the other half by the local authorities. For the first of these organizations the government has provided $214,000,000, the greater part since 1909. With it the *Home Colonization Commission* has bought and subdivided lands and financed settlers on more than a million acres in five provinces of the empire.

Colonization under a combination of local and state authorities is a recent development, the law concerning it having been passed in 1911 and amended in 1913. A great deal has been done, however, especially in providing homes for farm laborers.

At first the tendency was to buy land remote from markets and not cultivated to the best advantage. But since 1909 the demand for farms and the benefits derived from them has led to the buying of highly-improved estates. The tendency now seems to be to continue this until tenant farming in Germany is practically abolished, and also until all the estates of any considerable size have been subdivided.

When the *Home Colonization Commission* purchases an estate it keeps it two years before offering it to settlers. That time is used to carry out the improvements which can best be made before settlement. These include macadamized roads, drainage works, the manuring and the seeding of farms, and in some cases systems of irrigation. The land is cultivated in order to bring it into a condition in which it will be profitable to the settler. The subdivisions include farms varying in size from twelve to sixty-five acres and homes for farm laborers varying in area from one and a half to five acres. If estates have large groups of buildings, these are made a sort of civic centers where are found blacksmith shops, stores, schools, and churches.

Settlers are given the services of expert advisers. Seed for the first year is furnished and where it is desired houses are built. These houses cost from $300 to $1,000. The settler is expected to have money enough to pay for house, seed, and equipment, but if he lacks this and is satisfactory in other respects aid in securing these is supplied. The average expenditure for seed, tools, and improvements, aside from the house, is about $500 for each farm.

At first these farms were leased to settlers. This was not a success. Then settlers were allowed to buy them outright, or to pay for them as soon as possible. This also was unsatisfactory, because many of the settlers were disposed to speculate and sell out whenever a profit could be secured. Under the present system the settler is not required to make any cash payment on the land but has it for fifty years with an annual payment of 3½ per cent interest on the total cost. He must also meet the requirements of the state regarding cultivation and keeping up improvements, which are closely looked after. At the end of this fifty-year period the payments on the land begin. The average cost of land bought and subdivided by the *Home Colonization Commission* has been about $95 an acre. The average cost under the local boards, as far as ascertained, has been about $110 an acre.

In Italy

Italy. The commission has been unable to get the latest reports on the land settlement operations of the Italian Government or of the several associations, operating under government direction, which carry on this business on a nonprofit seeking basis. However, such valuable results have been obtained from state loans for making farm improvements, and carrying out irrigation and drainage plans that such loans have now become a permanent state policy. The state loan is made for a period of seventy-five years with interest at 2½ per cent.

In Russia

Russia. In no other country has systematic state colonization reached the magnitude that it has attained in recent years in Russia. Between 1906 and 1910 the Peasants' Land Bank, which has an annual government subsidy of $2,575,000, bought, subdivided and sold to settlers 4,041,789 acres for $92,700,000, or about $23 an acre. The maximum size of these farms is fifty-seven acres. Loans are made up to 90 per cent of the value of the land with interest at 4 per cent and a payment period varying from thirteen to fifty-five years. This is in addition to the immense colonization operations of the government in Siberia where, as stated in Herrick's work on rural credits, "*Hundreds upon hundreds of thousands of Russian farmers have acquired millions of acres, worth billions of dollars, by means of money and credit facilities supplied by the government.*" It is reported that Russia is now making preparations to inaugurate, at the close of the present war, the most liberal and comprehensive system of state aid in land settlement yet undertaken by any country.

In New Zealand

New Zealand. The reasons for colonization in New Zealand are not unlike those in California. A country of 66,000,000 acres, about two-thirds the area of California, has a population of a little over 1,000,000, or about one-third that of this state. In order to bring about a more rapid development of the unoccupied land, New Zealand adopted a system of issuing bonds for long periods of years, selling these bonds in London, and lending the money to farmers for the purpose of buying land and making improvements on it. In the eight years from 1906 to 1914, the government loaned $72,726,800. The loans are made at 4½ per cent interest for terms of payment varying from twenty to thirty-six years. Up to 60 per cent of the value of the property may be borrowed if the settler can give first mortgage security, or 60 per cent of his equity in the property if it is a leasehold.

There are wide variations in land prices in New Zealand, due to differences in location and improvements. Generally speaking, however, land prices in New Zealand are high, relatively much higher than in Europe.

In Australia

The Australian States. The most fruitful field for study of land settlement operations is, however, the six Australian states. Especially is this true with respect to California, as the southern half of the continent has climate, products, and market conditions very similar to ours. The resemblance goes farther. The two countries are peopled by the same race, and they have the same habits, the same social and political ideals, and very similar economic conditions.

In the two most highly developed states of Australia, Victoria and New South Wales, there is another resemblance. There, as in California, the early land policies were unwise and profligate. Land was given away without regard to the needs and the rights of future generations. Great landed estates were created until, as pastoral pursuits gave way to cultivation, and especially to intensive cultivation, there developed an agriculture in which nonresident ownership and tenant farming were the dominating features. This was not regarded as desirable. It led to the inauguration of the present system of closer settlement.

The plan of this system was to incorporate the following ideas:

1. Have the area of land large enough to give a living income for a settler and family.

2. Estimate in advance the capital needed to improve and equip that area and fix the proportion to be supplied by the settler and terms of borrowing the remainder.

3. Provide organized direction in the improvement of farms in order that the settler may earn a living in the least time and with the least expense.

The systems now in operation in Victoria and New South Wales are alike in essential features, the only difference between them being the nature of the land title. In New South Wales the settler acquires only a perpetual lease, while in Victoria he acquires a freehold title. But in Victoria the title to the land does not pass to the settler for twelve years and can then only be acquired or held by an actual resident. This prevents speculators from acquiring land.

As the working details of the system in operation in these states are likely to receive increasing attention here, those of Victoria are given in full.

GENERAL CONDITIONS GOVERNING THE SALE OF CLOSER SETTLEMENT LANDS IN VICTORIA, AUSTRALIA

1. "Applicants, male or female, must be over the age of eighteen years.
2. "The maximum value of land which may be held by one lessee is $12,000, except in the case of an allotment where a valuable homestead is erected, when the value of the land may be increased to $19,200.

Agricultural Laborers' Allotment to $1,680.

3. "Allotments are sold under a conditional purchase lease having a term of 31½ years. Applicants are required to lodge a deposit equal to 3 per cent of the capital value of the land applied for, together with $6.00 lease and registration fees. In the event of an application being unsuccessful, all money lodged, less the registration fee of $1.20, is returned.
4. "Residence upon the allotment, or upon the estate of which the allotment forms a part, or upon land adjoining the estate and not separated from it by more than a road or watercourse, is compulsory for eight months in each year, in the case of a farm holding. In the cases of agricultural laborer's and workmen's allotments, residence for eight months in each year is also compulsory, and each lessee by himself or his family must reside on his own allotment.
5. "Upon a farm allotment it is a condition of the lease that permanent and substantial improvements to an amount equivalent to 6 per cent of the capital value of the land shall be effected by lessee before the end of the first year. Before the end of the third year, the value of the improvements must be increased to 10 per cent, and by the end of the sixth year to a total value of 20 per cent of the capital value of the land. Upon an agricultural laborer's allotment a substantial dwelling to the value at least of $144 must be erected by the end of the first year, and the boundaries of the allotment must be securely fenced by the end of the second year.

6. "The Crown grant (freehold title) may be obtained at the end of any half-year after the first twelve years of the lease have expired on payment of the balance of the purchase money. Perpetual residence by the lessee or occupier for the time being is required under the Crown grant.
7. "The Closer Settlement Acts provide that where through unforeseen circumstances settlers can not meet installments punctually, they may obtain temporary suspension thereof up to 60 per cent of the security value of the permanent and substantial improvements effected by them, or an advance up to the same amount, provided the installments are paid to date, may be obtained for a fixed period in order to enable them to continue working and further improve their allotments. All advances or suspensions carry an interest charge of 5 per cent per annum upon the amount suspended or advanced. In cases where the amount of arrears exceeds the security value of the improvements, the settler is required to give a lien on his crop or a stock mortgage as further security until the arrears are extinguished or reduced to within the security value of the improvements. The maximum advance or suspension which may be made to a settler on a farm allotment on account of improvements effected within the first six years of his lease is $2,400. If the lease has been in existence over six years, and the certificates of compliance with the conditions of the lease have been obtained, the board may increase the advance by an amount up to 60 per cent of the principal which has been repaid, the total advance not to exceed $4,000."

PREPARATION OF LAND FOR IRRIGATION

"The state renders the following assistance to settlers in the grading of land:

1. It rents settlers grading tools at the nominal charge of 60 cents a day, thus saving the settler a large expenditure in these implements.
2. It furnishes at a nominal cost contour plans showing the direction of the slopes, thus enabling the settler to tell how his land should be graded.
3. It grades a part or the entire farm in advance of settlement, and adds the cost of this to the price of the land."

The settler, therefore, has the option of either doing his own work or of taking a block where a part of the work has already been done.

Closer Settlement in Victoria. Under this act there have been purchased in Victoria 567,687 acres of land, the purchase price being about $37 an acre. About 15 per cent of the purchase price was necessary to cover expenses of supervision and settlement. The average price to settlers of the Closer Settlement lands has been about $45 an acre. The land so bought has been disposed of as follows: 500,819 acres in farm allotments, 8,829 acres as agricultural laborers' allotments; 4,112 settlers have secured farms under this state act.

Closer Settlement in the Commonwealth. Between 1901 and 1914 the six Australian states purchased and subdivided 3,056,957 acres, for which $55,243,125 were paid, or about $18 an acre. In all of the states provisions are made to assist settlers to build homes and effect improvements needed to bring the land fully and promptly under cultivation. In the five-year period from 1909 to 1914 these six states loaned to farmers to make improvements and buy equipment $68,029,500. This has been done without any cost to the general taxpayer, as the interest paid by the farmers was greater than the interest paid by the state; and the farmers have met both payments of principal and interest, so that there has been an accumulated profit of $1,233,370.

Brazil. In Brazil the federal government cooperates with the state governments, with the transportation companies, and with individuals in giving aid to settlers. The state government, with which the federal government has arrangements, will provide colonists with tools and seed. The farms, when near railroads, do not exceed 62 acres. If they are distant from transportation, they may be 125 acres in extent.

In Brazil

The government will, when requested, build good and sanitary houses, but immigrants who desire to erect houses at their own expense and to their own taste can do so. Improved farms will be sold either for cash or payments in installments. Where cash is paid a definite title is given immediately; where payments are amortized, title is given when payments have been completed. Those who purchase farms on the installment plan may pay off any part of the debt before the final date, and if this is done a rebate of 12 per cent is given on the installments paid in advance.

For the first six months after their arrival, or until they harvest and sell their first crop; colonists coming from other countries may when necessary obtain loans to purchase food for their families and for the first year they receive medical attendance and medicine free of charge. The land, the improvements, and such aid as is not given free of charge are all lumped together in the debt for the land. The amortized payments for the land begin not later than the end of the second year, and the period for completing payments is five years when the lands are near railroads, and eight years when distant from them.

In the state of San Paulo the price of land varies from $.60 to $4.50 an acre and the annual payments vary from $30 to $90. In 1914, the year after state aid began, there were 1,600 applications for homesteads from the city of San Francisco. Settlement has been interrupted by the war, but it is expected to be active when the war ceases.

Venezuela. The colonization act of Venezuela was passed in 1912. Immigrants acceptable under this act are individuals of the European race, persons under sixty years of age having good habits and health and good moral character. The government officials are authorized to enter into arrangements with colonists to pay their expenses to the country and to see that they are sent free of cost to their farms. To the first hundred families who come under this act in each section of the country there are alloted 62 acres and 25 acres additional for each son over ten years of age. After the first one hundred families the rest of the land will be sold to colonists for eight cents an acre, payable in ten annual installments, the first payment to begin at the end of the first year. The first one hundred families are given houses without rent for one year, tools, animals for cultivation, all the seed and live stock and food needed for six months in the hot parts of the country and for a year in the cold parts, and all necessary material for the construction of a house.

In Venezuela

All of the things so supplied to the settler must be repaid to the government in five annual payments, which must be begun at the end of the third year, making the time of payment eight years. The government supplies food and lodging for the colonists from the time they arrive in the country until they are located on their farms.

Uruguay. A bill for the promotion of land settlement in Uruguay is now before the legislature of that country. It has the support of the government, and it is believed it will pass. It appropriates $500,000 to be used in purchasing and subdividing land. To furnish this money bonds are to be sold drawing interest at 5 per cent. The homesteads will be sold for cash or in installments covering a period of thirty years. The price of these subdivisions is fixed to cover the cost of land and expenses of building roadways, etc., so that returns from the land will reimburse the state for the expense incurred. The $500,000 is intended to be a revolving fund, and as settlers pay for their land new land is to be bought.

In Uruguay

No settler can buy more than one farm, but the size of these farms is not fixed in the act, that being left to the discretion of the government commission, which includes the president and the secretary of Industry and Labor. The farms are to be free of taxes for ten years and exempt from judgment during the first year of possession.

FEATURES OF DEVELOPMENT WHICH REQUIRE ATTENTION

No other part of America can provide so attractive rural life as the coast and foothill sections of California. The owner of a few acres can live out of doors, can have green lawns, flowers, fruits, and vegetables of his own growing throughout the entire year.

Rural home colonies

To the charm and the healthfulness of this kind of home life there is added an environment that is altogether unique in its opportunities and attractions. The foothills and the valleys are the places for homes. The mountains and sea are close at hand for occasional visits. Rural home colonies of educated, refined people who love outdoor life are a natural sequence of our system of good roads, good schools, and the literary and artistic life of our cities. Home colonies ought to be laid out by the best landscape engineers; and their locations and their advantages should be made widely known. Much has been done in home colonization in southern California. But the greatest fields for expansion are in the beautiful coast hills and valleys of northern and central California and along the foothill slopes of the Sierras. Marin, Sonoma, San Mateo, Santa Clara and Monterey counties ought to rival southern France in the number and the attractiveness of their rural homes and gardens.

The opportunities and attractions of rural homes

It must be made clear, however, that such homes afford not an opportunity *to make money,* but an opportunity for those who have money to get the most out of life. The aim should be to create the best conditions of life for those who have an assured income, although it need not be a large one. Thousands of people in the East and the Middle West having no business ties could live in California as conveniently as elsewhere, and could get infinitely more out of life here than is possible in sections of the country where a rigorous climate restricts the freedom of outdoor life.

Colonies for such persons would bring about one thing that is desirable in this state: a clear-cut distinction in colonization enterprises between residence values and productive values. The literature of several colonies indicates that social advantages and the residence value of homes are important features of their plans; but unfortunately this fact is not made clear in the hopes held out to settlers. An unfortunate example of this kind of colonization is the Little Landers colonies in which prospects were held out of an attractive social life based on the income which could be derived from a single acre of land. Many oversanguine, inexperienced settlers left permanent employment to take up residence in these colonies, believing that the new life would be independent and easy. They found, on the contrary, that the income was meager and the work hard. Disillusionment and discontent followed. These colonies would have been a success if only colonists having an outside income of at least $500 a year had been accepted. With food and clothes assured, all the other anticipations would have been realized.

Distinction between residence value and productive value

Need for lessening overhead cost in rural home colonies

In schemes of this character where the capital of settlers is limited the difference between the price at which land is sold before subdivision and that at which it is sold to settlers should be small. In the Little Landers colonies, on the contrary, the difference between the two prices was very great. What is needed is some plan for colonies of this character which will lessen the overhead cost.

There is also need of a more clear-cut distinction between residence and income values. Too often these are hopelessly confused. The Atascadero Colony is an illustration of this. Here land which cost less than $40 an acre is being sold to settlers in from one to ten acre tracts at from $250 to $1,000 an acre. These prices are believed to be higher than productive values warrant. However, the company is expending large sums of money in the building of roads, creating a civic center, planting and cultivating orchards for two years and these are desirable features for those who are able to pay for them. But the advertisements should make this clear and should not exaggerate the income or profits to be derived from cultivation in an attempt to make this alone justify the prices asked.

Evils of inflated prices greater in productive colonies

While it is not believed that excessive prices should be charged for land in residence colonies, the evils of inflated prices are not so great there as in the colonies for people of limited means who expect to earn their living out of the soil. In such colonies any marked difference between the productive value of the land and the price at which it is sold constitutes an economic wrong because it deprives settlers of a fair interest on their investment.

The commission and the state are indebted to Professor R. L. Adams of the University of California and Professor M. S. Wildman of Stanford for their investigation of this subject, which was made without charge for services, at the request of the State Commission of Immigration and Housing and the Colonization Commission.

NEED FOR A DETERMINATION OF WHAT IS A LIVING AREA

One of the needs of colonization in this state is a comprehensive investigation of the returns from farms, vineyards, and orchards, of the expenses of cultivation and the cost of supporting a family, so that approximate guides can be furnished as to the acreage of land required for a living area under different kinds of cultivation. Subdivisions of land unfit for market gardening and remote from cities into one-acre, five-acre and ten-acre tracts have been sold as living areas. As stated in the testimony of Judge Chipman and others, they have been sold to laborers and clerks in cities who believed that they were making provision for their old age. Washerwomen, clerks, artisans, and school-teachers are struggling to pay for these little patches of land which often are so located that they could not be made to provide a living income. Because of this they have an uncertain selling value.

Misleading statements of what is a living area

The widely-advertised statement that in California a comfortable living can be made for a family from an acre of land shows ignorance of agricultural possibilities or an inexcusable disregard of agricultural facts. The density of population which a family to an acre would create has never been achieved elsewhere. Irrigated Egypt, where living expenses have been reduced to the lowest limit, where the land is unsurpassed in fertility, and where it is tilled by the most industrious people in the world, does not support a family to the acre. It is, therefore, not to be expected that unskilled men on land not especially fertile can work this miracle in California.

Need for plans for scientific development

There is enough land in California unused and uncultivated to render it unnecessary to crowd people in this fashion. This state needs plans which will provide a more generous social life and the kind of agriculture and horticulture which will give the largest returns for the worker's labor. And we need also the help which patient scientific study can give us in planning this kind of development.

HOW TO ENCOURAGE YOUNG PEOPLE TO BECOME FARMERS

Young people tempted to withdraw from rural life

One of the problems of California, as of the world, is to keep intelligent, progressive young people on the farm. In recent years the industries of the city have offered so many opportunities for industrious and enterprising young people that there is a strong temptation for the young men and women trained in our agricultural colleges and high schools to accept salaried positions and thus be drawn away from rural life.

Farms can be bought only by those who have accumulated money

The rising price of land increases this tendency because only those who have accumulated considerable money can attempt to purchase farms, especially under the terms on which land is usually sold. This forces farmers' sons and daughters, who have a real love for farm life, to work for wages, and for this there are far better opportunities in the cities. The statistics gathered in this investigation show that the majority of settlers now buying farms in California are middle-aged men who have accumulated money elsewhere or in other occupations.

If, however, young people were given an opportunity to begin life on a farm of their own, so that they could feel that their future was secure and if they wanted to marry they could do so with safety, if they were given assurance that they would have time enough to earn the price of the farm out of the soil, present conditions would be entirely reversed. Then the opportunity for the enterprising and ambitious would be in the country, especially for those who had a liking for farm life and an understanding of what it required. The state colonization systems of Denmark and Australia have made special provision for young men and the large percentage of colonists under thirty years of age is a noteworthy feature of their closer settlements. Later on in this report a recommendation for carrying out a similar policy here will be made.

Young men would not leave farms if assured of future

OPPORTUNITIES FOR DIVERSIFIED AGRICULTURE

Another need of California is a large extension of diversified farming and a lessened tendency toward single crops. No section of this country surpasses California as a place to breed blooded live stock. The winning of the Grand Championship and Reserve Championship at the International Live Stock Show at Chicago this year by two steers bred and fed in California has demonstrated to the world the accuracy of this statement. The opportunity to grow green feed the year round, the absence of extremes of heat and cold, are all favorable conditions. We ought to be, in the breeding of fine stock, the source for the United States and South America that England has long been for the world. We believe that this result can be achieved if stockbreeding is given systematic encouragement.

PART V

CONCLUSIONS AND RECOMMENDATIONS

Need for state land settlement policy

The colonization and development of the unpeopled farm lands of California is of such importance to all the people of the state that it should not be left to the separate action of landowners, but should be shaped in part by the carefully thought out purposeful action of all the people. This means that the state should have a land settlement policy and deal with this matter as a public problem.

Other countries have a lesson for us

The progress being made by other nations in improving agricultural methods, in uplifting agricultural workers and in affording all who are fitted for it by industry and character, the opportunity to enjoy landed independence has a lesson for this country which ought not be ignored. Such progress is making other countries better places to live in, increasing their industrial efficiency and their political and social strength, and making them dangerous commercial competitors. We do not believe that this country will be content to let older nations surpass us in those things which contribute to the welfare of the rural masses. Our immense unpeopled estates give us an opportunity to surpass all European countries except Russia in the extent of rural development. Each of these estates is a blank leaf on which we may write whatever record we choose.

Selfish individualism or community good?

We may perpetuate a selfish and short-sighted individualism. We may try to make all we can out of the gifts of nature. We may charge everyone who comes here all that can be collected for the sunshine, scenery, society, and soil. We may, by extending alien tenantry and ignoring the social needs of farm labor, create slums in the country while we collect high rents.

Or by regarding colonization and the creation of rural communities as a trust, we may create agricultural colonies filled with people who will make this a state where the best people in this country will want to live. We may only do this, however, if the diversion of our rivers, the selection of land for colonies, and the methods of development are planned and directed by the best thought and intelligence of the time. We shall achieve nothing by leaving these things to blind chance.

In this report attention has been called to undesirable conditions only when it was necessary to show the manner and degree in which private unregulated colonization has failed and the need for displacing it by something wiser and better.

State Supervision of Settlement

It is believed that every interest which needs consideration would be benefited by providing for state supervision of colonization. There is some difficulty in accomplishing this because it ought not to embrace ordinary sales of land from one person to another, but only include those enterprises which assume sufficient magnitude to have public importance and in which settlers who are unacquainted with local conditions are sought from the outside or from a particular neighborhood. Such supervision should aim to accomplish the following results:

1. To provide that adequate attention has been given to water supplies and drainage in irrigated areas.
2. That the land is suited to the purposes for which it is being sold.
3. That there is no misrepresentation in the advertising.

It should also aim to aid those engaged in colonization by pointing out features in the plan they are following which are likely to lead to failure. Such state supervision would in no way hamper development, but by preventing misrepresentation and giving new colonization enterprises the benefit of a wider experience would protect them from mistakes and also safeguard the settler.

Aim and result of state supervision

It would promote development by strengthening confidence in our advertising statements abroad, but it will not of itself lead to the adoption of the best features of the land settlement systems of other countries. Private companies will not give the terms of Denmark, Germany, or Australia until it has been demonstrated here that such terms can be given with safety. They will not provide homes for farm laborers until shown that these homes will be paid for and be a community asset. No country has adopted modern settlement methods until its government took the initiative and showed the value of them. We can not expect California to be an exception.

In the past settlers and land settlement have been helped by the large increase in land prices which accompanied development. This made it possible to borrow money for improvements or to sell a part of the original purchase for nearly the first cost of the whole area. This aid can not be relied upon in the future and we must replace it by a more generous personal credit system and by introducing more efficient and cheaper methods of preparing farms for intensive cultivation.

More generous personal credit system necessary

The experience of other countries and of some colonization enterprises in this country indicates that it is cheaper for an organization having ample capital to level and seed the land and finance the building of houses than to leave the work to the individual settler.

Longer terms for payment necessary

The experience of other countries is to the effect that a longer time in which to pay for farms than has been given in California is desirable. The tendency in Canada is to make the payment period not less than twenty years. In European countries it varies from thirty to seventy-five years.

The following suggestions are made as to the future financing of settlers in California:

1. Give twenty to thirty years' time in which to pay for land.
2. After the initial payment require no further payment on principal for the first two years, but stipulate in the selling contract the character of the improvements which must be made.
3. Have the payments of land amortized and the amount of the annual or semiannual payments equal throughout the entire period.

State bureaus of information

It also seems desirable that the state should aid colonization by establishing one or more offices in the state where information regarding land in approved colony enterprises could be obtained.

The state might also, as West Virginia is now doing, distribute printed lists of land in enterprises that are approved, giving the conditions of settlement and the kind of crops which might be grown.

Colonization by the State

It is believed that over a considerable part of this country the different states will soon have joined other enlightened countries in making colonization a public matter. In the East it will be done to lessen tenant farming and improve agricultural practices; in the West as the best method of rapidly settling unoccupied and uncultivated land.

The tendency toward state settlement in this country

The tendency towards the adoption of this policy in the West is shown by the decision of the United States Reclamation Service to level and improve farms before offering them for settlement; in the introductions and hearings on the Crosser Bill, which, if enacted, will go farther than even Denmark and Germany in financing settlers on public lands; and in the report of the Cooperative Land Settlement Board in Wyoming, which has recommended that the federal government build irrigation works and that the state subdivide the land, select the settlers and finance them in making their necessary improvements. It is understood that this report has the support of the state authorities in Wyoming and that legislation to carry it into effect is being framed.

Possibility of state influence in California

The immense area of land in the large estates of California would make progress too slow if it depended entirely on action by the state, but the state can do more than any other single influence to promote the adoption of right policies by making a demonstration in colonization for the purpose of showing how superior carefully thought out development is to that where only local or immediate benefits are considered.

The need for an educational demonstration by the state

The state which blazes the trail in scientific colonization will secure a prominence and establish a moral leadership that will be of great value in attracting desirable settlers. No state has more to gain from such leadership than has California. A concrete working example in this state of the methods and policies which have transformed rural life and immensely improved agricultural practices in Denmark, Ireland, Germany, Australia, and New Zealand would do more than any other single influence to insure future agricultural progress along right lines. In no other way can the owners of large estates be so effectively shown what to do and what to avoid. In no other way can the present tendency to create here a great alien land tenantry be more certainly checked. If the state were to purchase, subdivide, and settle 10,000 acres, its action would be watched by the whole world. It is entirely feasible to make this educational demonstration commercially profitable. It can be made to pay its way, so as to cost the taxpayer nothing. Such result has been achieved in the countries whose state systems have been held up as examples; there is no reason to doubt our ability to be equally efficient and successful.

DEMONSTRATION SHOULD BE ON A COMMERCIAL SCALE

An area of about 10,000 acres is suggested, because this area can be more economically and effectively managed than a smaller one; and its results would be of more general value. A larger area is not advised because of the cost.

Out of such an area there would have to be deducted, let us say, 300 acres for roads, canals, schoolhouses, and recreation grounds; 100 acres for farm laborers' allotments and a few small orchards and gardens. This would leave 9,600 acres, or enough for about two hundred farms varying in size from 20 to 100 acres.

If these two hundred farms were all settled by alert, ambitious young men and women, there would be a community that would be to agriculture in California what the Greeley Colony was to irrigated farming in Colorado. The value of this demonstration would be increased by restricting settlement to qualified applicants between the ages of eighteen and thirty, men of experience and training, no one to be eligible who owns farm land elsewhere in the state, nor who has not had at least one year's farming experience, and who can not within six months become an actual resident and cultivator of his farm.

In planning colonies the state should follow the main working features of the plans which have succeeded best elsewhere. We believe that if the plans included the following the results would be entirely satisfactory:

The land to be sold on thirty-six years' time, with an initial cash payment of 5 per cent, with interest payments of 4½ per cent and amortized annual payments of principal of 1½ per cent beginning at the end of the fourth year, the settler to pay for his land and have a clear title in the payment period by paying 4½ per cent on the cost the first four years and 6 per cent on the cost the remaining thirty-two years. Each settler should be required to have capital enough to pay, in cash, one-fourth the cost of all improvements made by the state; payment of the remainder of the cost of improvements to be amortized and bear the same interest as the payments on land. With these terms of payment for land and improvements it is believed that existing financial institutions can give whatever credit is necessary in buying equipment, including dairy cows.

The features of a state colony

The selection of colonists should be entrusted to a board, the subsequent business management to be in the hands of a single competent superintendent reporting to this board. The State Agricultural College should make systematic provision for giving advice and information regarding farm management and cultivation. The superintendent would give advice about buying live stock and equipping farms. The state should, by contract, build houses, level land for irrigation or loan money to settlers on insurable improvements carried out under the direction and to the satisfaction of the authorities in control, a conservative maximum limit to be fixed.

The prices of farms after subdivision should be so adjusted as to pay for land lost in roads and canals, also interest on the cost of the land between time of subdivision and time of settlement and all other incidental expenses. In Australia 15 per cent was sufficient to cover the above items.

The selection of the land should be entrusted to an expert committee, the purpose being not to enhance or depress prices, but to buy land at its productive value. If this were understood, it would be a guarantee to settlers that they were getting their money's worth. The character of various state commissions shows that there will be no difficulty in the appointment of one in whom the public would have implicit confidence, and who would see that a price was paid for land which would be fair to landowners and settlers alike. The land might be paid for with state bonds bearing, say 4 per cent interest, or bought under a contract by which the landowner would give deeds direct to the settler, the state guaranteeing his payments and having the right to complete the purchase and enter into full ownership at any time deemed advisable. Existing state authorities could plan the works for a water supply, subdivide the area and fix the size of farms. In financing the settlers the amount of capital to be provided can be greatly reduced by making full use of the loaning possibilities of the Federal Farm Loan Act.

State settlement in accord with tendency of our time

These departures from the methods and policies under which the state has reached its present wealth and greatness are in accordance with the changing tendencies of our time. Before the beginning of the present war and more rapidly since its beginning the leading nations of the world are organizing all their resources and their industries, so as to eliminate waste, promote efficiency and give the broadest possible diffusion of opportunities. Making settlement a public matter and using the wisdom and experience of the world in shaping our methods and policies will not only attract people here, but will do more to make California a desirable place to live in and secure a better use of our resources than can be accomplished in any other way.

Respectfully submitted.

(Signed) ELWOOD MEAD, *Chairman.*
HARRIS WEINSTOCK.
DAVID P. BARROWS.
MORTIMER FLEISHHACKER.
CHESTER ROWELL.

DAVID N. MORGAN, *Secretary.*

I. Financial Consideration of California Agriculture.

By R. L. Adams

To aid the work of the California State Commission on Colonization and Rural Credits, at the request of its chairman, Dr. Elwood Mead, an investigation has been conducted during the past summer by the Department of Farm Management, Division of Agronomy, College of Agriculture, University of California, to determine so far as possible for selected businesses, what in California agriculture constitutes:

(1) A living income.
(2) Size of a family business.
(3) Capital required to equip and establish a family business.
(4) Capital needed for running expenses.
(5) Probable returns.
(6) What farming should pay and a determination as to whether the selected businesses fulfill their financial obligations.

Difficulties Confronting the Presentation of Data.

At the very outset, in collecting data for presenting financial consideration of California agriculture, one is immediately confronted with the great variation in conditions, a variation which applies not only to soil, water, climate, topography, market and size of holdings, but to wide differences in individual opinions, experiences, practices and ideals of the various men engaged in the business.

For instance, the sum necessary to provide a proper standard of living is the basis upon which all financial estimates must turn. It is the keynote to a discussion of the financial side of agriculture. Yet ideas differ widely as to what sum is needed to provide proper living for the average family. Differences in ideas may be traced to such things as the variation in (*a*) size of families, (*b*) age of members of the family, (*c*) standards of living demanded by different nationalities, (*d*) conditions of environment in which childhood was spent, (*e*) personal tastes as to what are proper social obligations, and (*f*) the degree of spending activity of various members of the family. Thus the comforts of one family will be the luxuries of a second and the necessities of a third.

Again, there is a wide difference of opinion among individuals in such things as buildings. We found dwelling houses erected in some cases for a cost not to exceed three hundred fifty dollars, including the labor of construction. Other families live in quarters not to exceed a cost of six to seven hundred dollars. From these low extremes the price paid for dwellings ranges to as high as two thousand dollars or more. Many settlers prefer to erect a small building for temporary purposes at the beginning of their activities, with the idea of replacing or enlarging later on when the business will warrant more elaborate and commodious quarters. We found instances of families temporarily quartered in a portion of the barn partitioned off, or in boarded up water tank towers.

Variation in Conditions.

The great variation in characteristics of the operator plays a most important part in determining the degree of success which will attend any farming enterprise. Thus one sees a striking example in contrasting the individual who boasts he has been thirty-five years on a rented hay ranch, during a time when California agriculture in its many changes has offered exceptional opportunities for advancement, with the man who took advantage of these opportunities. Or again the man who is getting rich on his choice of one hundred acres of rich, level, heavy producing land, offers a striking contrast to the man losing money on one thousand acres of poor land. As in any other business, success in farming will largely rest upon the qualifications of the operator with respect to: (1) Knowledge, (2) experience, (3) energy, (4) abiding enthusiasm, (5) faith, (6) courage, and (7) skill. While it is not possible to estimate the part that these factors play in the final result, the influence is certainly great.

There is also great variety in the characteristics of different farms. Water, soil, and climatic conditions in one section are very different from those in another. The man so situated that possible crops are oranges, lemons, walnuts or lima beans will reap different rewards than he who can only raise alfalfa or grain, or who is confined to the production of peaches or wine grapes. Distance to and receptivity of the market is another influence, and affects in a marked way such things as truck stuff, poultry products, berries, whole milk, and to a lesser extent, grains, beans, potatoes, pork, beef, and sheep. Hence in this respect to secure a living income above operating expenses the choice of crop or industries plays a most important part, and this choice must in a way be governed by the above factors.

Since it is not possible to cover all variations and differences, we have attempted to select those findings which represent as nearly as we are able to determine a fair basis for considering the financial aspects of those items outlined in the opening paragraph. The figures used for a living income—the crux of our whole presentation—from the very nature of things can not be final, as personal views differ to a great extent, and even an average of all opinions is not especially indicative. We have therefore confined ourselves to the figure which from a wide inquiry indicates the consensus of opinion. It is not an average but rather the figure referred to by the majority of those interviewed whose experience indicated their ability to pass judgment. To those who may take exception to the sum used by us, we may point out that it influences principally the size of the business, and no serious difficulty should be encountered in working over our acreage, or size of business, to comply with any revised income.

WHAT IS CONSIDERED A LIVING INCOME.

We define living income as that sum of money which a family should command each year to cover ordinary expenditures for shelter, food, fuel, light, clothing, entertainment, ordinary education and minor contributions to charity. A determination of the sum which will fulfill these conditions will furnish a basis for a discussion of the necessary size of the business and the capital required to establish and operate that business.

Our investigations indicate that a cash income for an average family of man, wife and three children in the city should amount to from one thousand to twelve hundred dollars per year, while in the country the sum ranges from five hundred to six hundred dollars. The difference between city and country figures is due to the fact that the farm furnishes a portion of fuel and feed, water and shelter, while in addition less expenditures are required for carfare and entertainment.

An addition of five hundred dollars to the living expenses should be added for the further education of every child who is to attend the university. This sum may be reduced, however, by a certain amount of self-support on the part of the student while at the university.

KINDS OF FARMING CONSIDERED.

California's agriculture offers a wonderful array of specialized types of farming, with general or diversified farming the exception rather than the rule. In this respect it stands in marked contrast to conditions in eastern states. The usual farmer confines himself primarily to some one kind of farm produce, bending all his energies to the production of that one thing alone. This may be grain, fruit, poultry, dairy products, hay, beef, pork or the like. Its special significance at this point of discussion is the opportunity it presents for complicating a presentation of the acreage needed. For a given income it makes a difference in the final results if a man possessing forty acres puts it into a diversity of field crops as beans, sugar beets, sunflowers, grain, and alfalfa for hay; or whether he plants one-fourth or one-half to fruit trees and utilizes the rest for a garden, poultry and berries. Thus at the outset one is confronted with a vast number of combinations possible under California agricultural conditions.

Since it is not possible to consider all types and variations of agriculture which might be followed under California conditions, we are obliged to select certain representative types to indicate the general status of the whole. For this purpose we shall consider the financial statements for:

(*a*) Grain production on irrigated land.
(*b*) Deciduous fruits.
(*c*) Poultry products.
(*d*) Dairying on irrigated land.
  (1) Whole milk production.
  (2) Butter-fat production.
(*e*) Diversified farming on irrigated land.

Of these five, however, greatest stress will be placed upon the diversified type because it offers the more stable and profitable business for the average farmer. Not only will it permit the building up of run down lands, the elimination of waste, insect and fungous pests, the utilization of live stock with its attendant production of manure, but it offers a variety of work, thus insuring some branch of the business which will receive special attention at the hands of the operator, provide more or less continuous employment throughout the year and furnish a variety of products for sale, thus reducing the dangers attendant upon a fluctuating and sometimes nonreceptive market. While it is not possible to foretell the future with entire accuracy, it is a fact, however, that diversified farming is rapidly taking the place of the more specialized farms in many sections and will no doubt continue to advance. This is especially true of the newer subdivisions.

We shall assume in every case that the lands are supplied with ample ditch water, are level and of good soil texture, situated attractively climatically for the produce to be marketed. Such an assumption covers lands which may be found in large areas in the great interior valley—the Sacramento and San Joaquin valleys. The findings, however, may be converted without any great changes for the coast sections and rolling foothill lands by the introduction of modified figures to cover local conditions.

Furthermore, we shall confine our attention to the family farm. A "family farm" may be defined as that unit of farm business which can be handled by the average family to produce the sum accepted as necessary to cover the various expenditures to be met. Whether or not the average family farm as it exists in California today will fulfill the financial obligations outlined above remains to be seen in the forthcoming analysis.

FINANCIAL ITEMS UNDER CONSIDERATION.

As a starting point in considering the various financial items incident to the five selected businesses as indicated above, we shall take data accumulated during the past summer as obtained from farmers interested in their business and whose experience gives them authority to state what in their opinion constitutes a family farm.

From this data the size of business needed amounts to:

Business	Range	Average
Grain	80-640 acres	320 acres
Fruit	10-40 acres	20 acres
Poultry	1,200-4,000 fowls	2,000 fowls
Dairying	10-30 cows	20 cows
Diversified farming	20-80 acres	40 acres

The financial consideration may be grouped as capital required for:

(1) Land.
(2) Improving and equipping.
(3) Provide operating and living expenses until business is established.
(4) Providing operating expenses after business is established.

With these divisions as guides, the details for each of the five businesses follows—for grain, deciduous fruits, poultry, dairying and diversified farming. In addition an inquiry will be instituted as to:

(5) Probable returns to be expected when in full operation.
(6) The sum the business is expected to pay, and an inquiry as to whether or not the business will meet its requirements.
(7) Amount of credit business will liquidate.

CAPITAL FOR LAND.

Land values vary greatly and figures used must be construed entirely as being for illustrative purposes. Land prices today are influenced to a large extent by speculative values and promotion costs rather than producing value, hence market values today as a rule are not true indices to its real worth.

The costs of the land for the five selected businesses amount to:

Business	Acreage	Value per acre	Total value
Grain	[illegible] acres	$60 00	[illegible]
Fruit	20 acres	120 00	2,400 00
Poultry	10 acres	200 00	2,000 00
Dairy	30 acres	150 00	4,500 00
Diversified farming	40 acres	150 00	6,000 00

In using this data for specific cases figures representing the existing land values should replace the ones used here.

CAPITAL FOR EQUIPMENT.

The capital required for equipment is grouped for the chosen businesses under the subheadings:

Buildings.
Fences.
Implements and machinery.
Work stock and harness.
Live stock, other than work stock, as hogs, poultry and milk cows.
Special equipment, as dairy or poultry equipment.
Small tools and shop material.

It is very evident at the outset that there is a variation in the equipment needed for the different industries. That required for an orchard business varies in character and cost from that which must be secured for the proper carrying on of a dairy, while poultry equipment varies from that required for general farming.

In the following discussion we have attempted to select those figures which in the majority of actual cases investigated indicate the sum needed to provide sufficient equipment of a satisfactory type, buildings of a substantial and permanent nature though not of elaborate design, a fair grade of live stock, and good work horses.

Summed up, the figures for the different industries amount to:

TABLE I.

Showing cost of equipping selected industries.

Segregated costs (round numbers).

Industry	Total equipment cost	Buildings	Fences	Implements and machinery	Work stock and harness	Live stock	Special equipment	Small tools and shop material
Grain	$5,925	$1,850	$783	$871	$2,154	$100	$67	$100
Fruit	3,260	1,300	65	1,438	342	25	20	70
Poultry	4,809	1,965	950	84	125	1,006	600	80
Dairy	5,670	2,245	65	403	467	1,950	470	70
Diversified farming	4,494	1,950	303	432	684	670	386	70

The detailed lists with costs follow:

COST OF EQUIPPING A 320-ACRE GRAIN RANCH—IRRIGATED.

***Buildings*—(Material only)—**		
Dwelling	$800 00	
Windmill, well tank and tank house	250 00	
Hay and horse barn	600 00	
Implement shed and blacksmith shop	200 00	$1,850 00
***Fences*—**		
For entire farm (3 strands barbed wire, posts 1½ rods apart)		783 00
***Implements and machinery*—**		
2 Stockton gang plows	$130 00	
1 Spike tooth harrow, 4 sect	40 00	
1 Grain drill	115 00	
1 Grain binder	175 00	
1 Mower, 5 ft.	72 00	
1 Hay rake, 10 ft.	40 00	
1 Jackson fork	15 00	
2 Hauling wagons	120 00	
1 Cart	65 00	
2 Hay racks	50 00	
6 Pitchforks	6 00	
1 Post hole auger	2 50	
1 Wire stretcher	2 50	
1 Shovel	1 80	
1 Fresno scraper	21 00	
Lead bars	15 00	870 80
***Work stock and harness*—**		
12 Work horses, collars and harness	$2,004 00	
1 Driving horse and harness	150 00	2,154 00
***Live stock other than work stock*—**		
Poultry and cow		100 00
***Special equipment*—**		
2 Manure forks	$2 00	
1 Broom	1 50	
1 Wheelbarrow	5 00	
1 Drinking trough	13 00	
Piping to buildings	20 00	
Incidentals, as rope, halters, buckets, etc.	25 00	66 50
***Small tools and shop material*—**		
Blacksmith outfit and small tools	$50 00	
Shop material—nails, bolts, iron, lumber, etc.	50 00	100 00
Total		$5,924 80

COST OF EQUIPPING A 20-ACRE DECIDUOUS FRUIT RANCH.

With few exceptions, the same equipment is needed for orchards of various varieties of deciduous fruit or of mixed fruits.

Buildings—(Material only)—		
Dwelling	$800 00	
Windmill, well, tank and tank house	50 00	
Horse barn, 12 feet by 20 feet	100 00	
Blacksmith shop and implement shed	150 00	$1,100 00
Fences—		
For entire ranch (2 strands barbed wire, posts 1½ rods apart)		64 80
Implements and machinery—		
12-in walking plow	$21 50	
10-in. walking plow	17 75	
9-ft. spike tooth harrow	18 70	
2 sectional spring tooth harrow	22 60	
6-ft. disc harrow	20 00	
5-ft. corrugated roller	61 00	
9-ft. planker—home-made Fresno scraper	21 00	
Double and single trees, ropes, halters, etc.	15 00	
1½-ton fruit truck	100 00	
150-gallon spray outfit	275 00	
Pitchfork	1 00	
Hoe	60	
Pruning saw	50	
1 pair 30-in. pruning shears	2 50	
6 ladders, 10—14-ft.	18 00	
6 three-gallon picking buckets	1 50	
1,000 trays	387 00	
800 lug boxes—40-lb.	94 00	
Sulfur house	5 00	
Pick	90	
2 shovels	1 50	
2 fruit trucks for drying house	14 00	
Cutting shed	50 00	
2-ton road wagon	150 00	
1 buggy	125 00	1,437 95
Work stock and harness—		
Team and harness		342 00
Live stock other than work stock—		
Poultry		25 00
Special equipment—		
Piping to buildings		20 00
Small tools and shop material—		
Nails, nuts, bolts, iron, lumber, etc.	$20 00	
Small tools	50 00	70 00
Total		$3,059 75

COST OF EQUIPPING 2500 FOWL POULTRY FARM.

Greater variety and individuality are expressed in the poultry business than in almost any other farming. It is therefore difficult to give any fast rule as to the equipment necessary, or the style of buildings and houses that should be used.

The following equipment is based upon 2500 fowls—the usual family plant—and will serve to indicate the cost of equipment:

Buildings—(Material only)—		
Dwelling	$800 00	
Windmill, well, tank and tankhouse	250 00	
Hay and horse barn and implement shed	150 00	
5 flock houses, 56 ft. by 18 ft.	575 00	
2 brooder houses, 34 ft. by 16 ft.	150 00	$1,925 00

Fences—		
5-ft. woven wire, posts 1 rod apart		$950 00
Implements and machinery—		
10-in. walking plow	$18 00	
1 sectional spike tooth harrow	9 35	
Cultivator	6 50	
Hoe	60	
Shovel	75	
Scythe	1 75	
Rake	75	
Spade	75	
Posthole auger	2 50	
Wire stretcher	2 50	
Low yard truck	20 00	
Scraper	21 00	84 45
Work stock and harness—		
Horse	$100 00	
Harness	25 00	125 00
Live stock other than work stock—		
1200 six mos. pullets at $8.00 per doz.	$800 00	
3200 chicks at 8 cents each	256 00	1,056 00
Special equipment—		
42 feeding troughs at 75 cents each	$32 00	
3 watering troughs at 2.50 each	7 50	
Broom	1 50	
Hand sprayer (for inside)	7 00	
Power mixer	60 00	
Kale cutter	25 00	
30 feed buckets (wood)	4 50	
Scoop shovel	1 50	
Wheelbarrow, hand wagon or sled	7 00	
Grinder	27 00	
Cooking pot	15 00	
6 egg buckets (wood)	90	
6 dozen glass eggs	1 20	
4 dozen, 36-dozen eggs cases	26 00	
2 distillate heaters	56 00	
6 drinking fountains	3 00	
Water system and piping	254 00	529 10
Small tools and shop material—		
Small tools, lumber and shop		30 00
Total		$4,809 55

Cost of Equipping a 20-Cow Dairy.

(a) *Producing whole milk for wholesale trade.*

The list of equipment given herewith is a summary of conclusions drawn from data obtained, and constitutes the minimum amount of equipment for a one-man dairy:

Buildings—(Material only)—		
Dwelling	$800 00	
Windmill, well, tank and tankhouse	250 00	
Hay (100 tons) and horse barn and corrals	400 00	
Cow barn (28 ft. by 40 ft.) with cement floor and corrals	345 00	
Wood silo (14 ft. by 30 ft.)	250 00	
Blacksmith shop and implement shed	150 00	
Milk room	50 00	$2,245 00
Fences—		
Around farm—3 strands barbed wire, posts 1½ rods apart		65 25

Implements and machinery—		
12-in. walking plow	$21 50	
8-ft. spike tooth harrow	18 70	
Fresno scraper	21 00	
5-foot mower	72 00	
10-foot rake	40 00	
1½-ton wagon	85 00	
Hay rack	25 00	
2 shovels	1 50	
2 pitchforks	3 00	
Double and single trees, ropes, halters, etc	15 00	
Spring wagon and single harness	100 00	$402 70
Work stock and harness—		
2 work horses and harness	$342 00	
Driving or riding horse and harness	125 00	467 00
Live stock other than work stock—		
20 cows at $90.00 each	$1,800 00	
1 bull	150 00	1,950 00
Special equipment—		
Piping to buildings	$20 00	
Cesspool and sewer	50 00	
2 drinking troughs	50 00	
Wheelbarrow	5 00	
16-bu. feeding truck	28 40	
40-foot hose	20 00	
2 barn shovels	2 00	
2 brooms	3 00	
2 hoes	1 20	
2 stable forks	3 00	
Jackson hay fork	10 00	
2 milk stools	2 50	
2 20-quart pails	7 00	
Wall strainer and conveyor	11 00	
15-in. tube cooler—milk	30 00	
2-compartment wash sink	27 00	
2 horsepower boiler	101 00	
20-ft. 8-in. stack; roof plates; spark arrester and damper	16 00	
Separator	75 00	
1 dozen brushes	4 00	
Keg washing powder	4 40	470 50
Small tools and shop material—		
Material, as nails, nuts, bolts, scrap iron, lumber, etc.	$20 00	
Small tools and blacksmith outfit	50 00	70 00
Total		$6,570 45

(*b*) *Producing Butter-fat.*

The entire list given for "Whole milk at wholesale" will remain the same, except the milk room equipment, which is as follows:

Large separator	$90 00	
Ideal sanitary cream cooler	12 00	
Babcock tester	12 00	
Scales	2 50	$116 50

The cost under whole milk for milk room equipment is $268, or $152 less in butter-fat production. Subtracting from the total ($6570.45) under whole milk production, the total for butter-fat production is $6418.45.

COST OF EQUIPPING 40 ACRES DIVERSIFIED FARMING.

This acreage is to be devoted to the usual plan followed by the majority of the settlers on the recent subdivisions and covers the production of sufficient alfalfa to feed the work stock, four or five dairy cows, and five or six sows; it also includes a small (200 fowls) poultry plant, and a small family orchard and garden—the latter three for home use only, with the possible exception of a limited sale of extra produce—and an acreage devoted to the production of such field crops as beets, hay, corn, beans, potatoes, and including possibly a limited acreage of truck crops.

Figuring that all concentrated feed must be purchased, but that ample pasture will be provided, the cropping plan calls for:

16 acres devoted to alfalfa.
3 acres for roads, farmstead, corrals, poultry plant and vegetable garden.
1 acre for family orchard—60 trees per acre.
20 acres for field crops.

Buildings—(Material only)—		
Dwelling	$800 00	
Windmill, well, tank and tankhouse	250 00	
Hay, horse and cow barn and corrals	400 00	
2 individual 9 ft. by 12 ft. hog houses for 2 sows and litters	50 00	
2 farrowing pens 10 ft. by 10 ft.	10 00	
1 hog shed—approx. 12 ft. by 12 ft. by 6 ft., roofed and boarded in at rear and two ends	15 00	
1 poultry flock house—12 ft. by 40 feet	75 00	
Milkroom	25 00	
Silo	175 00	
Implement shed and blacksmith shop	150 00	$1,950 00
Fences—		
For poultry, 5-ft. woven wire, with posts 1 rod apart	$19 80	
For hogs, 26-in. woven wire hog fence and 3 strands of barbed wire	106 90	
For entire farm—3 strands barbed wire, posts 1½ rods apart	87 00	
For farmstead, pastures, and orchard	88 00	301 70
Work stock and harness—		
4 horses	$600 00	
2 sets leather harness, $42.00	84 00	684 00
Live stock other than work stock—		
5 dairy cows at $90.00	$450 00	
5 sows at $20.00	100 00	
15 dozens fowls at $8.00	120 00	670 00
Implements and machinery—		
12-in. walking plow	$21 70	
9-ft. spike tooth harrow	16 70	
Walking cultivator	7 00	
Planter for beans and corn	50 00	
Fresno scraper	21 00	
Pruning saw	50	
20-in. pruning shears	2 50	
3 three-gallon picking buckets	75	
Hand spray outfit	12 00	
5-ft mower	72 00	
10-ft. rake	40 00	
Hay rack	25 00	
3-ton wagon	150 00	
2 pitchforks	2 00	
2 shovels	1 80	
2 hoes	1 20	
1 spade	1 00	
1 post hole auger	2 50	
Wire stretcher	2 50	432 15
Special equipment—		
Cesspool and sewer	$50 00	
2 drinking troughs (barns)	25 00	
Wheelbarrow	5 00	
20-ft. 1½-in. hose	10 00	

1 barn shovel	$1 50	
2 brooms (barns)	2 00	
2 stable forks (barns)	2 00	
Jackson hay fork	10 00	
Wallow (concrete)	25 00	
8 feeding troughs (hogs)	8 00	
8 drinking troughs (hogs)	8 00	
Dipping vat and pens	15 00	
Feed shovel (hogs)	1 50	
Broom (hogs)	1 50	
Scoop shovel (hogs)	1 50	
Fork (hogs)	1 00	
4 feeding troughs (poultry)	2 00	
Drinking troughs (poultry)	2 50	
2 feed buckets (poultry)	30	
Scoop shovel (poultry)	1 50	
1½ dozen glass eggs	40	
Milk stool	1 25	
2 20-quart pails	7 00	
Wash sink	8 00	
Separator	75 00	
Keg washing powder	4 40	
2 brushes	70	
Double and single trees, lead bars, ropes, halters, etc.	15 00	
Piping to buildings and farmstead lots	100 00	386 05
Small tools and shop material—		
Small tools and blacksmith outfit	$50 00	
Shop material, as bolts, nails, lumber, etc	20 00	70 00
Total		$4,492 90

CAPITAL FOR OPERATING AND LIVING EXPENSES UNTIL BUSINESS IS SELF-SUPPORTING.

Our investigations indicate that returns of only minor importance will result until the business is self-supporting, and constitute a factor hardly worth considering with the exception of the fruit business. In general, sufficient capital must be available to cover the living and operating expenses for a period of one year in the case of grain and poultry, two years in the case of dairying and diversified farming and five years for fruit. This period permits the settler to gather his equipment together, erect buildings, put up fences, prepare his land, and secure a supply of growing feed. Something of course depends on the time he takes possession. Thus land secured in September or October can be put in a fall crop at once, or prepared for a spring crop; land secured in May or June must usually go over until fall. The settler is not expected to buy stock until feed is available.

Summed up, there will be required capital as shown in the next table.

Details are omitted from this text to prevent confusion and indicate results in a brief and clear-cut manner.

TABLE II.

Showing capital required for living and operating expenses until industry is self-supporting

(Round Numbers)

Industry	Number of years	Capital for living	Feed for stock	Extra help	Material and repairs, seed, tools, etc.	Water (annual)	Taxes and insurance	Total capital needed	Possible returns	Capital operator must command
Grain	1	$600	$600	$700	$200	$400	$400	$2,900		$2,900
Fruit	5	3,000	750	75	300	300	175	4,600	*$2,000	2,600
Poultry	1	600	800	300	160	25	75	2,000	750	1,250
Dairy	2	1,300	325	300	75	200	100	2,300		2,300
Diversified farming	2	1,900	250	450	125	200	150	3,075		3,075

*Intercropped for five years. Figures are averages for beans, cabbage, Indian corn, peas, potatoes, sorghum, sugar beets, and tomatoes, figuring 12 acres of 20 acres cropped, and amounting to $2,000.

Capital for operating and living expenses after business is fully developed.

A certain amount of capital must be available for operating expenses in all businesses after they are established. This is summarized in the following table:

TABLE III.

Showing capital required for operating and living expenses after industry is fully established

(Round Numbers)

Industry	Living	Feed for stock	New stock	Extra help	Water (assumed)	Material and repairs	Taxes and insurance	Total capital
Grain	$600	$75	———	$350	$400	$500	$400	$2,325
Fruit	600	150	———	800	100	25	100	1,775
Poultry	600	4,200	$300	200	75	50	100	5,525
Dairy	600	25	———	400	125	50	75	1,275
Diversified farming	600	400	———	400	125	120	100	1,745

Cash as indicated in this table is not needed as initial investment. It is to be obtained from the proceeds of sales and represents the portion utilized for the carrying on of the business. Returns are utilized from one month to the next, or one year to another, according to the period which elapses between sales of products.

SUMMARY—COST OF ESTABLISHING THE BUSINESS.

For purposes of comparison and reference the outlays necessary to bring the various businesses to a self-supporting age are condensed in the following table:

TABLE IV.

Summary of capital requirements

(Round numbers)

Industry	Land	Equipment	Establishing business	Total to establish business	Capital required annually after business is established
Grain	$12,200	$6,000	$2,850	$21,050	$2,325
Fruit	2,400	3,300	1,500	7,200	1,775
Poultry	2,000	4,800	1,275	8,075	5,525
Dairy	4,500	5,700	2,200	12,400	1,275
Diversified farming	6,000	4,500	2,375	12,875	1,745

POSSIBLE RETURNS.

The gross returns obtained from the different businesses when fully established, are summarized in the following table:

TABLE V.

Showing returns

Industry	Gross returns
Grain	$3,000
Fruit	2,500
Poultry	7,000
Dairy	1,800
Diversified farming	2,100

WHAT THE BUSINESS SHOULD PAY.

Four general ideas of what any farm business should pay are open for consideration.

The first considers that the business need pay nothing beyond cash expenditures for the operation of the farm and a living income for the family.

The second recognizes that in addition to the living and operating expenses, a sum should also be secured sufficient to cover the exhaustion of capital. Implements and machinery wear out, buildings and fences decay, work and live stock grow old and useless, so unless a provision is made for their replacement, the business can not be said to be on a sound basis.

The third idea recognizes living, operating and replacement sums and in addition considers a farm bought with part credit, the repayment of which is to come from the farm receipts.

The fourth considers the farm business in the same way as any business and expects returns ample enough to cover all operating expenses and overhead charges. Under this consideration, the farm, when in full operation, must produce sums sufficient to pay for all labor—horse and man—and all material used, producing and marketing the products, interest on all moneys invested, sums to offset depreciation, a reasonable management charge, taxes, insurance, and a sinking sum for emergencies.

It is well at this point to distinguish between living income and total income which may be needed. Living income considers only that sum necessary for the support of the family. If in addition a farm or its equipment is purchased on part credit with the idea of paying off the indebtedness from the earnings of the farm, the business must be larger in scope and earning capacity than when sufficient cash is available for the outright purchase of the entire business. Thus we consider that the farm must be called upon to supply a total of six hundred dollars, required by the average family of five, as a minimum to provide a warrantable standard of living—allowing a reasonable degree of comfort and eliminating the thought of immediate privation for ultimate satisfactory gains.

In addition to the living, if the place is purchased on part credit to be paid off in installments with interest on deferred payments, an additional sum must be available sufficient to meet the terms of the contract.

It is manifestly evident that the returns demanded will greatly affect the size of the business. In our consideration of the returns which the business should pay, we shall ignore the first, second and fourth considerations, confining our attention to the third. The first and second are eliminated because they require that cash be available for the entire purchase of land, equipment, improvements and living from the outset. The fourth is omitted because a colonization plan may be sound, even though it does not parallel ordinary business investments. Instead of expecting the farm to give full cash returns one may reasonably argue that the benefits of farm life for the family properly constituted to enjoy it, are not measured solely in dollars and cents. A sound foundation obtains if the settler operates a business sufficiently large to insure his operating expenses, living, replacement of any capital used up, and to provide for initial partial payment of the original outlay, together with annual amortization payments of principal with interest.

Summed up, therefore, we demand that the business be large enough to provide $600 annually for living expenses, repay capital spent for extra labor and material in growing and marketing the products of the farm, furnish a sum for replacement of equipment as it wears out, and permit operations on a partial credit plan with provision for ultimate liquidation of the debt.

To recapitulate, each of the five selected businesses must pay:

Six hundred dollars for living expenses.
A sum to cover depreciation of buildings, stock and implements.
A sum to cover outlay for operating expenses.
A sum to pay off indebtedness on the business.

The following table shows the cash needs of the business:

TABLE VI.

Showing sum business should pay when established

(Round numbers)

Industry	Depreciation of[1]						Living and operating expenses	Total sum
	Buildings	Fences	Implements and machinery	Work stock	Live stock	Special equipment and small tools		
Grain	$60	$40	$357	$100	$30	$30	$2,225	$2,842
Fruit	65	5	144	40	10	5	1,775	2,044
Poultry	95	50	8	15	[2]	75	5,525	5,768
Dairy	110	5	40	55	115	60	1,275	1,660
Diversified farming	100	15	43	80	60	55	1,745	2,098

[1] Rate of depreciation is 5% for buildings (which includes repairs).
5% for fences (which includes repairs).
10-20% for special equipment and small tools.
12% for work stock (which includes mortality).
6% for dairy cows (which includes mortality).
17% for stock hogs (which includes mortality).
10% for implements and machinery.

[2] Poultry depreciation is not included as the annual value is kept level by purchase of new stock, its feed and sale of old stock at reduced values.

FINAL TEST.

A comparison of returns and needs indicates the following:

TABLE VII.

Showing comparison of farm needs and returns

(Round numbers)

Industry	Gross returns	Farm needs	Gain or deficit
Grain	$3,000	$2,840	$160
Fruit	2,500	2,045	455
Poultry	7,000	5,770	1,230
Dairy	1,900	1,660	240
Diversified farming	2,100	2,090	10

If, in addition to the sums which the operator needs to support his family and carry on his business, he expects to pay off debts contracted at the beginning of his operations, he will have available only the sum in the last column of the table given above. Considering diversified farming only it is evident that 40 acres is too small a business to permit the liquidation of any debt contracted in the initial purchase of a ranch and its equipment.

To pay off the indebtedness of the diversified farm means that there must exist a larger business; exceptionally good farmer; better than average water, soil and climatic conditions resulting in increased yields or reduced operating expenses with consequent lessening of cost of production; a price better than the average; a reduction in living expense; a use of capital set aside for replacement of equipment; better producing fowls and cows than are given here; or some similar condition which, however, would hardly be classed as average.

CONCLUSION.

This report covers much new ground and thus can not be as finished as one might like. It will, however, indicate the items to be borne in mind and show something of the general situation as we were able to work it out.

If it furnishes a rough guide as to the capital requirements of those embarking in California agriculture, or at least a starting point for more extended investigations, I believe it will fully repay the work spent in its preparation.

Many thanks and much credit are due Mr. Ray W. Fisher for his conscientious and painstaking work in gathering data for this report and preparing it for final use.

II. Farm Tenantry in California.

BY EDWIN E. COX.

FOREWORD.

Farm tenantry is intimately connected with land settlement and rural credits. Agricultural records show tenantry to be rapidly increasing throughout the United States. The economic, social and political history of all nations proves that extensive land tenantry is inimical to the best permanent growth and development of the commonwealth. We in the United States have been dilatory and negligent in this important matter and it is high time that we should take steps to remedy this now very serious condition.

Historically considered, private ownership and land tenantry, as we know them, are of comparatively recent origin. They evolved logically from the feudal system of Europe; because the landed class controlled the "State" and the feudal serf gradually evoluted into the "tenant." The difference in method of land tenure explains the political as well as the social institutions of Europe. Dr. David Starr Jordan states that Mexico's present deplorable condition results directly because of the immense holdings of its landed class. Privileged orders are weakest when the number of small farm-land holdings are largest. The economists found that large ownerships and high rentals go together; that in the last analysis, "Rent is a tribute to those who give nothing in return," or in other words, "Rent is not the equation of labor for labor, but the resultant of a certain number of persons seeking to live."

The United States Census report (1910) shows practically no increase in farm tenantry in California during the ten years preceding 1910, but there is good reason to believe that tenantry is on the increase here as it is elsewhere in the United States. In many localities land has almost doubled in price in the last ten years, and is now held so high, and the prevailing terms of payment are so burdensome, that the farmer of small means must be content either to lease, become a farm-hand, or move to the city. Under present conditions, very many tenants declare that they much prefer to lease because the land will not make them a living and pay 5 per cent on its cost. This is especially true in many reclamation districts where the asking price is $400 and upwards per acre.

SOURCES OF DATA.

Owing to the limits of time and money available, much of the basis of this report has been gathered from owners who live or have offices around San Francisco Bay. Personal inspection was made, however, of the coast district below San Francisco, the delta country and the Stockton, Lodi, Florin, Sacramento, Davis, Vacaville, and Winters neighborhoods. Tenants were interviewed and their statements were verified where possible.

THE DELTA DISTRICT.

Being able to secure ample returns on their actual investment by leasing to foreigners, the majority of owners in the great Delta District, when interviewed by the writer, denied any desire to sell to purchasers of small tracts.

The Delta, in its entirety, comprises some 285,000 acres of rich alluvial soil (including water) of which approximately 250,000 acres are sufficiently reclaimed for intense cultivation. The estimated acreage of the leading crops this year (1916) is, roughly, as follows: Barley, 120,000; beans, 40,000; potatoes, 30,000; onions, 4,000; sugar beets, 3,000; Indian corn, 3,500; celery, 1,000 acres.

CLASSES OF TENANTS.

The older reclamation districts are formed by white people, as follows: Union and Rough and Ready islands, Upper and Middle-Roberts, and Burke tracts, and New Hope Pocket; mainly by whites: Lower Roberts and Staten islands and Drexler tract; partially by whites; Sargents-canal ranch, Brack, Terminus, Sargent-Barnhart and Byron tracts, Clifton-court, and Bethel and Jersey islands. The newer reclamations are farmed wholly by Asiatics. These include Upper and Lower Jones tracts, Woodward and Orwood islands, Palms, Franks and Webb tracts. Bacon, McDonald, Holland, Bradford, Mandeville, Venice and King islands, and Empire, Rindge and Elmwood tracts. The foregoing data were supplied by Mr. Frank Lyon, farm adviser of San Joaquin County.

Barley Tenure.

The larger delta acreage is devoted to barley because of its adaptability to such a large variety of soils and its value as a rotation crop. The average yield is about twenty sacks per acre. The selling price runs from about $1 to $1.50 per sack. The tenant furnishes his own stock and equipment, from one-half to all of the sacks, and delivers from twenty-five per cent to thirty-three and one-third per cent of the crop on the river-bank as the owner's share. It costs the tenant about $7.50 per acre to produce a crop of barley and he nets about the same amount after paying his rent and deducting his cost—figuring at twenty sacks to the acre.

Practically all of the barley land in the state is rented on the share basis. Sometimes the owner furnishes the stock and equipment and one-half of the sacks and gives the tenant one-half of the crop. Dry-farming land is usually leased, from year to year, for one-fourth of the crop in the warehouse, for grain, or on the same proportion in the stack for hay. On summer-fallowing the tenant is allowed $2 per acre for first plowing and $3 per acre if plowed twice, when lease is cancelled by the owner before the seed is planted.

The Farm-hand's Prospects.

The farm-hand who has established a good reputation finds some opportunity to get into the tenant class. Many owners are willing to furnish all stock and equipment and allow one-half of the crop. The Staten Island Land Company, I. L. Borden (owner of Victoria island), W. H. Wolf & Sons, and many others, furnish everything, excepting one-half the sacks and board for tenant and help, for one-half the crop on the river bank. The owner, however, decides what crop shall be grown, compels the proper care, etc., and markets the crop. This plan is followed with Americans, Italians, Portuguese, Japanese, and Chinese, depending, generally, on the kind of crop to be raised. That is, for barley, beans and corn, Americans and Italians are employed; for potatoes and onions, Japanese and Chinese; for celery, asparagus and field work on sugar-beets, Japanese.

Sugar Beets.

Sugar beets are becoming very popular in the delta, where transportation is available. From present indications, much more than 3,000 acres will be planted next year in this district. The tenant pays one-fourth of the crop, delivered on board cars at the shipping point. The refineries are building automatic loading platforms, and are paying this year, $5.50 per ton. They offer $6 for sugar-content of nineteen per cent or better. The yield per acre averages fifteen tons and it is stated that the sugar-content on the best land should run about nineteen per cent, or better.

Miller & Lux have just leased 5,000 acres in Kern County near Conner Station for sugar beets, for three years. They furnish land and water for irrigation and receive one-fourth of the crop delivered on the cars, also one-half of the tops. They expect an average yield of sixteen tons, with a sugar content of from eighteen per cent to twenty-three per cent, and a price of from $5.50 to $6.50 per ton. As it costs about forty dollars per acre to make a crop, the tenant expects to net from twenty-six dollars to thirty-seven dollars per acre.

BEANS.

Beans are the staple, and generally the most valuable, crop of the delta. This year there is about double the usual acreage. The pink variety predominates. Mr. F. B. Nims, who for many years has been the leading bean buyer of Stockton and one of the largest and most successful growers of beans in the delta, is by choice a tenant. He has all the up-to-date equipment, including caterpillars, and is authority for the following data:

"It costs from eighteen to twenty dollars per acre to grow and harvest a crop of beans, depending upon the condition of the land and necessary amount of hoeing. The average price has been $2.50 per sack of eighty pounds, and an average yield, which varies greatly, runs about from thirteen to fifteen sacks per acre. White help costs $1.50 per day and board and is usually very scarce. Asiatic help, which is most available, must be carefully watched, and costs $2 per day. Hindoos are most unsatisfactory. The Asiatic boards himself, bunks anywhere and works eleven hours per day; white help works ten hours.

"The well equipped, industrious farmer will often harvest from twenty to twenty-five sacks per acre, if the season is favorable, from the best land. At $2.50 per sack he will get from $50 to $62 per acre. Deducting the average cost of $18 and paying his rent of from thirty to thirty-three and one-third per cent, or say from $15 to $20, he has left, roughly, from $17 to $25 per acre, a good profit.

"This presumes the most favorable conditions as to experience, industry and capacity of tenant, quality of land, irrigation and drainage, seasonal weather, available help for hoeing, and an average market. On the other hand, many tenants often experience the lack of one or more of these requisites and harvest only nine or ten sacks per acre. A yield of from thirteen to fifteen sacks is a fairer basis on which to figure, and following the above method will allow the tenant after paying rent and the average expenses from $4.75 to $7 per acre, net. Not a very healthy income when living expenses and up-keep of stock are considered.

"However, the average bean tenant, over a five-year period, probably nets somewhere between $7 and $10 per acre. Beans have been high this year, which accounts for the extra-large acreage. It has been a good year, and the large crop will, doubtless, bring the price down to about normal. Some tenants have been lucky in getting large crops and high prices and are well-to-do. This fact and the prospect of striking it rich has tempted many poorly equipped farmers to grow beans, and many such have lost money."

TENANTS' REQUIREMENTS.

The tenant in the delta, who grows beans, should have at least $2500 to properly farm one hundred acres. He requires eight good horses (mules are not practicable on the loose delta soil) and certain implements. With his lease as evidence of his capacity and integrity, the commission man will furnish him with seed at eight per cent interest on the cost, and as the crop shows evidence of value the tenant can, and often does, secure cash advances from either the commission man or the owner to pay for hoeing. The delta tenant who is thus equipped, generally pays a rental of thirty per cent of the crop, whether of beans, barley or corn, delivered on the levee.

Rotation with barley and potatoes is practiced in the growing of beans in the delta region, necessitating a versatile tenant, or a year-to-year lease, changing tenants each year. In very many districts such is the custom, with consequent interference with family or neighborhood surroundings, unless the tenant lives in town and resorts to camp life during season. This is frequently the custom in the delta country today.

POTATOES, ONIONS, CELERY AND ASPARAGUS.

Next to barley and beans, potatoes and onions are the largest and most valuable crops of the delta country. The prevailing rental for either is from $18 to $20 per acre. Because of necessity of rotating potato land, in order to secure a good yield and prevent the growth of fungus; also because potatoes and onions are grown almost wholly, or at least, most successfully by Chinamen and Japanese, the land adapted to these crops is given over to Oriental camps. This subject is treated later on.

METHODS OF THE LARGEST OWNER IN THE DELTA.

The Delta Farms Company has 32,000 acres under cultivation and leases exclusively. Leases to whites often run five years, but Asiatics are limited, by law, to three years, and, in general the length of the tenure depends upon what crops the tenant is best fitted to grow. The majority of leases run for one year only, in order to provide for rotation, although the company prefers the three-year term. All leases are terminable by the company on January first, if written notice is given by September first. Where a lease is so canceled, the company allows the tenant from $2.50 to $4 per acre as repayment for any work begun on next year's crop and to cover cost of removal to another tract. Better tenants and better care and cultivation of the land result from the longer term of lease. All leases are drawn on a cash basis and specify what crops may be grown.

The rate for onions, beans and potatoes runs from $16 to $25 per acre. By the terms of all leases, the year's rent is payable in advance on January first, and, as is always the case, if advance cash payment is not made the usual crop mortgage is taken by the company and the commission men are all notified of such lien. As the crops are sold, the commission men, buying the same, mail checks to the tenant, drawn in favor of the company. The tenant takes the checks to the office of the company and receives a check for fifty per cent of the amount, until the rent and all other indebtedness is liquidated. When out of debt to the company, the tenant receives a memorandum stating that he is paid up and may now receive checks drawn to his own order. He sends this memorandum to the commission man and thereafter payment is made direct to him.

The company seldom finds it necessary to make advances to their tenants. Under the prevailing custom, if he needs money, he applies to the commission man. Hence the tenant in many cases has not one, but two, and even three liens against his growing crop. Constant care and supervision by the company helps and encourages each tenant to harvest the largest possible crop, and the company reports more requests for land than it can fill, as the intent is to lease at a fair rental, rather than to demand all the tenant will promise to pay.

WHAT THE OWNER USUALLY FURNISHES.

The prevailing method is as follows: The owner of the land keeps the levees in repair, digs and maintains the main canal, digs the seepage ditch and pumps out the drainage water. He furnishes water for irrigation and domestic use (both are from the canal or river) and the tenant must maintain the seepage and drainage ditches. The owner usually supplies a barn, kitchen, and house on pile foundation. The houses are sometimes of two stories, with two rooms down stairs, the up-stairs without partitions. The Delta Farms Company follow this plan, and claim that such improvements cost about $2,000.

The Delta Farms Company is making no effort to sell its land, nor is any plan now under consideration. The company is reclaiming 5,000 acres additional, making a grand total of 37,000 acres under one ownership, and has recently agreed to undertake the management and rental of an immense reclamation now being completed in Yolo County, beginning some 12 miles below Sacramento. The Delta Land Company's plan seems to be working very satisfactorily to the stockholders. Some idea of the magnitude of this enterprise may be gained by considering that to inspect all of the company's holdings requires a launch trip of approximately 125 miles.

VICTORIA ISLAND.

Mr. I. L. Borden, owner of Victoria island, of about 8,000 acres, rents mostly to Portuguese and Chinese who raise cattle, barley, oats, beans and potatoes on terms about as quoted elsewhere in this report. He approves of small ownership subdivision, but prefers to sell as a whole, at a reduced price, rather than undertake the effort. Mr. Borden recommends about fifty acres to each man, at about $250 an acre (usual terms) as adequate selling price, in small tracts, for reclaimed delta land.

THE ITALIAN TENANT.

Mr. Nims estimates that about fifteen per cent of the tenants in the delta district are Italians. They grow barley and beans principally, and as these crops rotate such tenants often lease only from year to year. The Italian prefers a long lease and has a reputation of building up the land. He is, therefore, in much demand by owners. Many Italian tenants have become owners, and generally the Italian renter is reported to have plenty of money; that is, he seldom has to borrow on his crop. As a class, it is difficult to praise too highly the Italian tenant as compared with other tenants of this district. Those with little capital associate themselves together in partnerships, and everyone, including each member of the family, works industriously. While the Italian is very successful growing grapes, vegetables and other crops in other portions of the state, comparatively few Italians are raising fruit. To get a start, the Italian will live in wretched quarters, but he allows nothing to go to waste and every foot of ground is utilized, including the door-yard, which is devoted to food for the table, rather than to flowers. As he advances financially he improves his home and has already demonstrated his desirability as a valuable adjunct to California rural population. While a tenant he almost invariably pays a crop, rather than a cash, rental; in the delta district, though, when growing vegetables, he generally pays a cash rental.

GENERAL DELTA CONDITIONS.

There are a few fine homes in the district, built for owners or managers, and some owners live on their land, at least part of the year. Few Americans, however, are willing to live "behind a levee," with the result that the whole delta country is practically given over to "camps," under conditions that only foreigners will accept.

Reclamation, like irrigation, districts must be operated as units, hence the delta country is an aggregation of reclaimed units, running from an approximate minimum of 1,000 acres to an approximate maximum of 15,000 acres. There are few single ownerships, but partnerships, or companies make up the majority of owners. Today little or no effort is made to sell in subdivision. Entire units are held at from $150 to $400 an acre, and the writer found no tracts of from twenty to one hundred acres for sale at less than $250 per acre, nor on easier terms than one-fifth cash, balance in four equal annual payments, with six per cent interest. The small owner would have to pay his pro rata of the annual up-keep of levees and drainage, at the command of the large owner, and the expense thus combined with high cost of land, makes tenantry imperative. Hence, many owners, like Mr. Nims, prefer to rent, while others prefer to operate under the farm-manager system rather than attempt to subdivide and sell. Both of the latter methods have their ardent supporters among the owners.

ASIATICS IN THE DELTA.

W. H. Wolf & Sons operate 2,200 acres; leasing at one-fourth or one-half, of the crop, on the river bank, depending upon how much the tenant can furnish, as before outlined. They have tried all nationalities, but for the last three years have leased to Japanese exclusively. The firm has ten camps of thirty men each, all Japanese. There are from thirty to forty Japanese women among these camps, and "every one has a baby each year." One wife of a Japanese, living on their tract, is a graduate of Mills College.

Several of the foremen are University of California graduates. Wolf & Sons would sell in forty or fifty-acre tracts at $250 per acre on long time payments. They claim to have lost money from advances, even where secured by crop mortgage. They say Japanese understand and endure conditions in the delta better than other people and are more efficient.

The Staten Island Land Company is one of the largest and most successful operators in the delta country. Staten Island comprises 9,200 acres all reclaimed. Aside from some 5,000 acres in beans and corn leased to whites, the land is farmed this year to potatoes, celery and asparagus. The potato land is leased to Chinese, the celery land to Japanese. Asparagus is grown by the company, working Japanese. It costs about $80 per acre to grow, so it is not practicable to lease asparagus land.

A superintendent and several foremen live on the island the year round. Their duty is to see that tenants take proper care of crops, supply irrigation, siphons and drainage, also supply barges for shipping crops. Each tenant or partnership is allotted from two hundred to three hundred acres. No regular houses are supplied to tenants as they move with rotation of crops. The Chinese often have old-fashioned cook houses, with dirt floors and no chimney. Each camp has a cook who shares in the profits of that particular partnership. Tenants are given enough hay land to raise their own hay. All tenants are crop tenants, on practically the same terms as before stated. All leases are one-year leases. The company does not favor absentee landlordism, but is not in the market to sell in small tracts.

Weyl-Zuckerman & Company, owning the Henning tract of 2,700 acres, lease potato and onion land to George Shima at $20 per acre cash, which they say he sublets as high as $27.50 per acre cash. They estimate an annual cost of $5 per acre upkeep of levees and pumping drainage. They have found so much trouble in financing and looking after tenants that hereafter they will themselves farm their land. They value their land at $300 per acre, but do not want to subdivide and sell. This firm suggests cooperation of all owners to combat pests and promulgate scientific farming.

THE JAPANESE TENANT.

No full story of the delta district can be told without reference to the well-known "Potato King" of California, Mr. George Shima. Beginning as a day laborer, with some knowledge of truck-growing in his native country, but with a keen conception of the Asiatic's capacity for hard labor, coupled with the instincts of a born gambler, Mr. Shima appeared in the delta district a quarter of a century ago, and by sheer industry, sagacity and luck as his best equipment has progressed until he is now reputed to be a millionaire. He has uniformly developed into the largest single tenant of the delta, having this year a grand total of 25,000 acres in potatoes, onions, beans, etc. Before the exclusion law became operative, he acquired 1,500 acres on Kings island, at $150 per acre, paying $50 per acre in addition for reclamation. This land is in onions this year. He thinks it will yield 400 sacks per acre, but the usual yield of onions is from 250 to 300 sacks. Shima sublets his 25,000 acres to Chinese, Japanese and Italians. He pays from $15 to $20 per acre cash rent, in quarterly installments, but finances his subtenants and gets from thirty-five to forty per cent of the crops, all of which he markets with the help of a competent American assistant.

Shima has six Chinese "camps" that grow potatoes. He furnishes the seed and advances the needed cash and retains forty per cent of the crop, which he markets. His skill in marketing is said to be almost uncanny and he often controls the California potato market. The profit in potatoes is extremely uncertain, since the price per sack, wholesale, has fluctuated in recent years from $2.85 to only $.05. A lucky succession of three or four large crops before the Idaho potatoes and the fungus invaded California gave Shima his financial start.

Shima has over fifty "camps" in the delta. Most of his subtenants furnish horses and equipment. Shima furnishes the feed, hay and seed. His foremen guide and oversee the planting, cultivating, etc., and the tenant on this plan gets sixty per cent of the crop. He has 7,000 acres in beans subleased to Italians on the last mentioned basis, and retains thirty-five per cent of the crop. He prefers renting in twenty-five-acre tracts to two men with a team, he himself supplying the feed, hay and sacks, and retaining forty per cent of the crops. He says that twenty-five acres is all two men can manage to the best advantage. On advanced money he takes the tenant's note, secured by a crop mortgage, charging eight per cent interest. His extensive operations often necessitate his borrowing money from the banks in $100,000 lots, on which he pays six per cent interest. This is the bright side of a certain financially successful tenantry. Let us glance at the other side.

The Darker Side.

Many people more or less familiar with the delta say that "Shima seeks only the newer reclamations; that he does not properly rotate his crops, and has failed to protect the district against the devastating fungi; that having robbed and infected the soil, he moves to other fields and is now preparing to retire and enjoy his tainted wealth, leaving his successors to struggle against conditions that should have been prevented, but for the greed of the Oriental."

This charge is made against both Japanese and Chinese with ample grounds, but the writer is assured by Mr. Shima that he is fully aware of the dangers threatening the potato industry, and is cooperating as far as possible in keeping down the pests; that his operations are very extensive, making it very difficult to induce his Oriental subtenants to follow instructions, and finally that results are not only unsatisfactory, but very expensive to him. In this connection, Mr. Geo. P. Weldon, State Deputy Horticultural Commissioner, says:

> "Great difficulty is sometimes experienced in getting Japanese and Chinese farm tenants to apply scientific principles, which mean so much toward success in agriculture. In this connection the potato industry of the delta is said to be suffering greatly. There are two fungus diseases of the potato; scab and rhizoctonia, which are amenable to control by proper seed treatment, and a third, fusarium-wilt, which can be greatly lessened by proper attention to the rejection of infested portions of tubers used for seed.
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> "According to the best available information from government and experiment station workers, scab can be practically eliminated by treatment of seed with corrosive sublimate (bicloride of mercury) solution, and planting in a clean soil. Rhizoctonia is largely responsible for the tremendous decrease in yield of the delta region in recent years.
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> "To get Chinese and Japanese tenants to realize the necessity for seed selection and treatment is an exceedingly difficult matter, in fact borders on the impossible in many cases. Their methods of seed selection and failure to treat seed for preventable diseases are such as to cause the greatest concern about the future of the potato industry."

The Japanese Question.

"Since the foreign born Oriental element is restricted by law to not more than a three-years' tenure, this report must discuss the Japanese question as substantially no other Asiatics are directly leasing farm lands, the Chinese truck-growers being managed almost wholly by Japanese.

Millis, Gulick and Richie, among others, have written much and interestingly on this important subject, drawing their several deductions, but it is extremely difficult to collect reliable figures covering the entire state. J. D. MacKenzie, in his report as Labor Commissioner, states that sixty-six per cent of the working force in the sugar beet industry were Japanese in 1909 and that they supplied 80 per cent of the working force picking grapes. The total number of Japanese in California January 1, 1910, was 41,628, of which 27,800 were engaged in agriculture. He cites Sacramento County as having the largest Japanese farming population, viz., 5,076 in 1909, decreasing to 4,082 in 1912; Fresno County next with 4,776; Tulare county, 1,058, and Merced County, 1,049 in 1912.

Mr. Gulick says: "The actual lease-holdings by Japanese in 1914 were 55,000 acres on a cash basis, and 60,000 acres on a share basis, the average size of the farms being forty acres. The total rentals paid by Japanese is approximately $700,000 annually. The prevailing cash rental runs from $20 to $30 per acre. Fifty per cent of the share leases are for one year, or less, and most of the leases pay fifty per cent of the gross, the owner furnishing all equipment. There were 20,294 acres (319 leases) recorded to Japanese in 1909, and only 17,596 acres (282 leases) recorded to Japanese in 1912.

Kawakama ("American-Japanese Relations") says that in 1912 there were 1170 crop-leases, covering 46,480 acres, and 481 share-leases, covering 33,028 acres, or a total of about 80,600 acres leased to Japanese. Gulick reports a total of 115,000 such leases in 1914, and Chiba estimates 169,200 acres leased to Japanese in 1916. The foregoing gives some idea of the rapid increase of Japanese tenantry.

ESTIMATES MADE BY THE SECRETARY OF THE JAPANESE AGRICULTURAL ASSOCIATION.

After a vain and hopeless endeavor to get definite data, the Honorable Mr. Hanahra, the Japanese consul, was appealed to and the following estimates were prepared under his direction, by Mr. Chiba, secretary of the Japanese Agricultural Association of California. Mr. Chiba has charge of this branch of the work now being carried on by the "Japanese Association" with headquarters in San Francisco. The Japanese Agricultural Association is a central body, with some eighteen or nineteen locals distributed over California (north of the Tehachapi), Nevada, Utah, and Colorado—the San Francisco Consulate's jurisdiction. The Japanese Agricultural Association was organized in the spring of 1916 for the purpose of gathering and disseminating information of all kinds appertaining to agriculture for the benefit of Japanese farmers. A list of questions was given to Mr. Chiba and after some two weeks employed in collecting such matter as would serve from his records, the following answers were cordially given with the caution that all of them were more or less estimates as the association had not yet finished gathering such data. For simplicity, the questions are omitted.

> "The present Japanese population in California is 55,695. The total number engaged in agriculture is 16,645, divided as follows: Owners, not incorporated, 465; tenants, 2,986; farm-laborers, 11,400. Japanese (not incorporated) own 15,415 acres, while there are seventy-five Japanase corporations owning 7,693 acres. The 2,982 tenants lease a grand total of 169,200 acres—2,380 cash leases, covering 108,706 acres, and 602 crop-leases, comprising 60,494 acres.
>
> "Vineyards, numbering 255, are leased by Japanese, or a total of 16,730 acres; the average rental being paid per acre is $35.[*] Japanese leased 441 fruit ranches amounting to 22,894 acres, the average rental paid per acre is also $35.[*] There are 812 leases of vegetable land, totaling 34,062 acres, at the average rental of $32.[*]
>
> "Housing and living conditions are gradually improving, but are not yet satisfactory. The present farming conditions are not satisfactory; first, because of the limitation on leases by the Alien Land Act; second, because of the high rate of rental exacted; and third, because of the lack of mutual-aid organizations for tenants. Rents have increased from one hundred per cent

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[*] These high rentals doubtless are intended to mean what it costs the Japanese tenant for a chance to live and "farm on the shares," as the writer found no such cash rentals being exacted, even if to be taken out of the crop.

The larger number of cash leases as given by Mr. Chiba are a surprise and the writer suspects that the figures have been exchanged, as his investigation has shown that by far the greater number of leases to Japanese are upon the share basis rather than cash.

to one hundred and fifty per cent in the last ten years; and barring a few exceptions the profits are insufficient, while it is very difficult for the tenant to get desired financial assistance when needed."

RECENT FRESNO COUNTY DATA.

In Fresno County, by data recently collected, 152 Japanese own 3,519 acres of land under corporations, each new baby being made a shareholder (complying with the law). One hundred and ninety-six Japanese personally own 3,225 acres, many deeds being recorded in the names of their newly-born children, and all such lands are producing properties, the Japanese being a shrewd buyer. These lands are valued at an average price of $300 per acre.

Raisin culture requires three years to mature vineyards, so renting viticultural land to Japanese is disadvantageous, but in many sections leasing to them has been compulsory in order to secure help during harvest, Japanese help being the only kind available. "In Fresno County vineyards, in order to get a start, Japanese are accepting forty per cent of the crop, while the white tenant expects and requires fifty per cent." J. K. Haska, secretary of the Japanese Association of Fresno County, advises each member of the colony. He retains able attorneys and has two paid men with several committees to perform the work of the local association.

THE JAPANESE CAN UNDERBID.

The Japs' willingness to accept cheaply constructed shelter, the boss-rule custom, and his adaptability for squat-labor, coupled with racial efficiency, has caused him to largely supersede all other farm help in several sections of the state. Vacaville, Newcastle, Florin, Fresno, Alviso and much of Los Angeles County are localities worthy of special mention. The white tenant demands more costly and comfortable housing, and better material and social surroundings. "The Japanese bids on a lower standard and as he will pay higher rent, he often gets the preference over the white tenant."†

In the deciduous fruit regions little capital is required after the trees are in bearing and many shippers lease orchards and sublet to Japanese. Whether or not the Japanese is forced to be a farmer and must underbid to get a start, it is certainly true that, so far, he has shown little disposition to improve his land as an owner and never as a tenant. When the land proves to be losing its fertility he seeks another place. "Frugal living, long hours, great industry and special adaptability, has made the Japanese successful and has increased rents and land prices accordingly." (Immigration Com. Rep., Vol. 24, pp. 401–412.)

CONDITIONS IN THE VACAVILLE DISTRICT.

The following data on Vacaville, Winters and Esparto districts were gathered by the San Francisco Examiner, but not hitherto published:

> "During 1913, Japanese leased 7,775 acres and owned 397 acres in the vicinity of Vacaville, but most of the leases were closely related to labor contracts. (I. C. R., Vol. 24, pp. 175–198.) On June 1, 1916, fully 30 per cent of the Vacaville and Winters fruit region was leased to Japanese. All leases run from year to year, but can be canceled at any time by the owner. Substantially all of the fruit is shipped through American commission men, on the customary seven per cent basis. Japanese handle nothing exclusively except beans. The regular Japanese population is from 250 to 300 in Vacaville, except in fruit-harvesting season, when it increases to 500 or 600.
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> "The Japanese colony of Vacaville is essentially confined to a single short street (Dobbin street) of small stores. These stores have the patronage of Japanese between Suisun and Sacramento. Three or four years ago they

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†Millis, Japanese Farming in California, page 140.

had their own bank there, and 'were coming in droves,' but are now decreasing and the bank has closed. There are seventeen stores, in corrugated iron shacks, with all kinds of wares. A small Chinese street bisects Dobbin street, and is made up mostly of fan-tan and other gambling places. The A. B. C. Company, a Japanese concern, located here, is the meeting place of a Japanese Association. C. M. Hartley, commission merchant of Vacaville, is the authority for the statement that all fruit is handled by white men at seven per cent; also that 'no Japanese association could compete with Colonel Weinstock's exchange.'

"Japanese here seldom pay cash rent and on a crop-rent lease, the owner always inserts a clause giving him absolute control of the ranch at all times; viz., 'all fruit is to be shipped in owner's name and through such shipping firm as owner may direct.' All work must be done in a manner satisfactory to the owner. Leases seldom run three years.

WINTERS AND ESPARTO.

"Out of some 4000 acres in fruit around Winters, about 1200 acres are leased to Japanese this year, and they own some 600 acres near Winters and 250 acres near Esparto. This latter tract was sold cheaply to a company of about twenty Japanese, because unimproved and considered rather worthless. It is now growing fruit, grain and beans. The Japanese, of course, have control of these beans and ship them through their own people (S. Kagooka of San Francisco handles them), but the fruit goes through regular American channels at seven per cent. Three hundred Japanese laborers are around Winters now; two or three years ago there were more than twice that number. The neighbors, generally, speak in the highest terms of the Esparto Cooperative Company of Japanese.

WHY JAPANESE SECURE LEASES.

"Owners at Winters and Esparto say they lease to Japanese because labor is transitory. By leasing, labor is held and made certain, but there is a 'back to the farm' movement setting in and fewer Japanese tenants than formerly.

"H. A. Bashford, five miles out of Winters, owns 700 acres of cherries and 300 acres of plums, apricots and English walnuts. He provides all ranch equipment and teams, Japanese provide the labor and board themselves. The profit is divided equally. Mr. Wolfskill (graduate of the University of California), representative of the Earl Fruit Company, says 'Owners in this district are becoming more suspicious of the Japanese each year and are getting more exacting; hence the number of Japanese is decreasing.'"

Richie says that the real Japanese problem is around Malaga, Sanger, Parlier, Selma, Dinuba, Clovis, Reedley, Fowler, Florin and Lodi. But the limits of this report will not permit further comment, and while Newcastle should be included in this list, enough has been said, perhaps, to show the general tendency in our state.

THE ITALIAN VEGETABLE TENANTS.

Mention should be made of the Tuscany Italians, growing artichokes along the coast, below San Francisco. About 3000 acres in San Mateo County is devoted to this crop each year. The average rental is $20 per acre, cash, but runs from $10 to $35, depending upon the quality and location of the land and the quantity of water for irrigation. When the artichoke industry started, only a few years ago, this land generally could be bought for $25 per acre, and about one-half of the district is now owned by Italians, but the price has advanced in the last five or six years to $300 and over per acre. Complaint is made that rents are too high but no relief is in sight, as the territory that will serve the purpose is very limited. Two-thirds of the crop is shipped east; that is, to New York Chicago, Boston and New Orleans.

Cabbage and kindred vegetable land near Colma rents for an average of $15 per acre, cash, either in monthly, quarterly, or semiannual payments. The tenants are mostly Italian partnerships. They must, usually, erect their own shacks and the prevailing leases run for five years, as the land must be fertilized greatly to insure adequate crops. Land here is held at from $200 to $1,000 because of its speculative value. About ten per cent of these Italian tenants are naturalized and very few become owners. Living conditions are very bad, the tenants work very hard, are raising splendid crops and are making money.

The Portuguese Dairymen.

The dairy industry in California is mostly in the hands of the Portuguese (population about 80,000), as they produce approximately 70 per cent of our milk, cream and butter. Formerly the Swiss predominated in this line, but they are now mostly engaged in producing cheese.

The hill lands of Marin, Napa, Solano and Alameda counties rent for $3 per acre, for grazing. On the west side of San Joaquin valley, from Patterson to Dos Palos, alfalfa land rents at from $15 to $25, cash, per acre.

Some fifteen years ago the Portuguese, from the Azores, mostly, began settling on the west side of the San Joaquin valley, from Crows Landing to Los Banos, and now about 50 per cent of the dairy land is owned by them. In the beginning of this movement the prices ran from $20 to $40 per acre. Recently they have paid as high as $300 per acre. The Portuguese live well on simple food and always save money. They are interested in schools and naturalize as soon as possible, becoming patriotic citizens.

Many dairy men, upon their arrival, begin as milkers, and as capability is shown, the owner will lease them a herd for one-half the net returns, including one-half of the calves. Gradually starting in this manner, the industrious helper acquires some cows of his own and then leases dairyland. When he accumulates enough, he buys land, mortgaging his herd, to buy either land or additional stock. Dairying for the young settler who is willing to work hard, and who understands the business, perhaps offers the surest way to a competency of all of California's golden opportunities.

Conclusion.

While California's tenants as a whole are faring better physically and financially than those of the eastern and southern states, due to our more favorable climate, soil and the higher intrinsic value of crop yield per acre, yet the prevailing debilitating conditions of land tenantry are by no means absent and a brief catalogue of the conditions that confront us will help in arousing us to action. The permanency and prosperity of our nation in the final analysis depends upon the general enlightenment and hopeful contentedness of our people as a whole. By taking account thus early and setting ourselves resolutely to the task, California will not only lead the way, but will have fewer difficulties to overcome in working out a solution of this most important problem.

Aside from the rapidly growing Asiatic element that cannot be assimilated, the white contingent of California's tenant class are generally living under conditions inimical to democratic citizenship. The tenant's children can not make the desired progress in education, as they are constantly moving from one school district to another. The parents, because of their transitory life, take little interest in the schools; first, for failure to appreciate their value, and secondly because the children are obliged to help in the exacting routine of the family's existence. Neighborhood solidarity, so important in communities of homeowners, is seriously lacking in sections given over to tenantry and the Commonwealth must correspondingly suffer.

In addition to the social disadvantage of our admixture of Oriental and transitory white tenantry, their economic condition is even worse, because, as this report shows, the average tenant, whether growing deciduous fruits, grain, or vegetables, is wholly at the mercy of the commission man. From one to three or four liens frequently cover his crop before it is harvested, and lack of a certain permanency, as well as want of money, cause him to rob the soil of its fertility, prevent eradication of pests, and lastly, compel him to "dump" his produce into the hands of the commission men at harvest time at the latter's price (usually the lowest of the year), leaving the tenant little better off financially than the year before, with no recourse but that of trying again next year, perhaps in a new location.

John Lee Coulter, Dean of Agriculture of the University of West Virginia, says: "Over 200,000,000 acres in the United States are owned by 47,276 persons, an average of 4230 acres each, which means that already *one-fourth of our agricultural area is owned by six ten-thousandths* (.0006) *of our population.* Every third farmer in our country works another man's land, and the proportion of tenants is growing rapidly."

Desires satisfied by the minimum of effort shape every movement of life. The tenant lacks the motive necessary to make him the best citizen. "The voice of opportunity must hail hitherward our settlers."

III. Land Settlement Problems in Southern California.

By A. L. Cowell.

Summing up the results of my observations in southern California from August 7th to August 17, 1916, I may say that the chief problem in land settlement there is to find land for the settlers rather than settlers for the land. This does not mean literally that all the available land is tilled to the capacity of its productiveness, but that the demand of the people who have been attracted to southern California is for homes under certain high-class conditions of situation and climate, and the efforts of the real estate salesmen are directed largely toward convincing buyers that what they have to sell measures up to the demand, or that the demand can be supplied only at prices much higher than buyers had expected to pay.

The average homeseeker who is attracted to southern California expects to get fine climate and an orange grove, and he expects to pay a fairly high price for both. When he finds that he must also pay for rose-bordered boulevards, bonuses to electric railroad lines, electric lighted highways and various other luxuries and conveniences, he does not object if they appeal to him, and they usually do. He finds that the range of citrus fruit culture is limited by two factors, climate and water supply, and therefore, if he is confidentially informed of the opening of a new "frostless belt" by the happy discovery of a stratum of water several hundred feet below it, he regards the information as a favor, regardless of the price of the land, "with a water right," which may be merely the privilege of spending several thousand dollars for a pumping plant.

In response to a question the other day as to what was the practical limit of pumping, a keen-witted observer of operations in various parts of southern California replied: "There ain't any such thing!" In view of the complex conditions affecting the use of water, he was right. But the development of deep wells is expensive, and so is the construction of storage reservoirs in steep canyons and other devices by which the arable area of southern California is gradually being extended. Consequently, land "with water" must always be high, and without water it is of little use.

In general, it may be said that farming in southern California must always be an expensive business for these reasons:

1. The high cost of land and water.
2. Variation of crops according to soil and climate, which frequently makes necessary costly experiments before the right crops for a given locality are determined.

3. The long wait for returns from orchards, especially the kinds which are most popular in southern California. In this connection, experience has not justified the wholesale promises of profitable returns from annual crops grown between trees. In the rich soils of portions of Orange County, and some sections in Los Angeles County, beans and other vegetables yield enough to pay the expenses of the care of trees, and something in addition, but I could not find any experience justifying the promises of some circulars that such crops would "pay for the land" after the buyer had made his first payment of one-fourth or one-third of the purchase price.

In view of the above facts, it is not strange that the real estate men of southern California have apparently given little consideration to the problem of the man of small resources. They have found it comparatively easy to separate him from what he had by selling him a small piece of land on "easy terms," and he has succeeded often enough by reason of special conditions to afford shining examples for the "literature" of land salesmen. When he has failed, he has gone to the city as a wage worker, and the land, with the improvements he has put on it, has been resold at a higher price. With the exception of the Fontana Land Company, I found no colonization agency that seemed to feel responsibility for the success of its colonists, or that had made special plans to help them succeed.

These conditions are due in part to the fact that the selling agency is usually independent of the owners of the land to be sold. This increases the selling cost, which according to the best information obtainable ranges, under this plan, from twenty to forty per cent, encourages misrepresentation in order to secure commissions, and causes almost total disregard of the prospective settlers' adaptability to the conditions to be encountered on the land.

Of late there seems to be developing an interest in the man of small means who desires to become a land-owner. It is recognized that he is needed for at least three purposes, namely:

1. To settle the desert. In a separate report the conditions on the desert have been described. Obviously, the seeker for fine climate and orange groves will not go to the desert, but the development of that territory will add to the wealth of Los Angeles, and it is realized that it has opportunities for the men of limited resources, but the spirit of the pioneer.

2. To provide labor for high-class farming. The Mexican is not a satisfactory workman for the orchards or the packing sheds. If white men of small means can be "anchored" to a locality by the purchase of pieces of land, they and their children will be glad to get work to help make payments. This phase of the matter has been covered quite fully in my report on the Fontana Land Company.

3. To build up better social conditions. The shacks of the Mexican laborers are an offense to those who are spending fortunes to plant roses and palms by the roadsides, and it is realized that the transitory laborer, no matter how industrious, adds nothing to the social life of a community or to the value of townsites. The homeseeker with limited resources, if he is of the right stock, will become, in this generation or the next, a valuable asset to the community if he can be helped to become an independent landowner.

There is no definite plan for helping the man of small means to make a success in the desert, except such help as the sugar beet companies extend where conditions for the production of beets seem favorable. As for helping him to get a start in the settled districts of southern California, little has been done, so far as I could learn, except at Fontana, beyond pointing out to him how he might succeed with good luck. Following are some of the ways in which he may get a start:

1. On a suburban acre, with a job in the city. He will spend less than if he lived in town and can raise a considerable part of his living by working on his acre mornings and evenings. He can also acquire the foundation of a dairy herd or raise hens enough to make a start in the poultry business.

2. As a laborer on farms or orchards. By this method his progress will be slow and uncertain, but he will learn California methods and where to buy when he is ready to start for himself. If he establishes a reputation as a desirable workman, he may safely buy a small place on terms within his reach.

3. As a renter, if he has enough to secure proper equipment. High-priced land may often be rented for much less than the interest on its price. For example, land near Van Nuys which cannot be bought for less than $400 an acre can be rented for from $8 to $12 an acre. Bean land in Orange County which could probably not be bought for less than $1000 an acre can be rented on shares, which will probably yield the owner less than five per cent on such a price. The reason, of course, is that the renter does not have to pay for climate, and roses, while the buyer does. Consequently, it may be cheaper to rent.

4. With poultry. This requires a capital of at least $1000, unless a stock of hens has been acquired by the suburban acre plan. The buildings for 500 hens will cost about $250 and the hens will cost $500 more. Suitable land might be rented or bought with a small initial payment, and the stock of hens gradually enlarged. One man can easily care for 1500 hens, and the net profits, not counting labor, should exceed, according to the experience of those with whom I talked, $1 per hen per year.

To succeed by any of these methods requires a rather exceptional combination of personal qualifications, such as industry, persistence in the face of hardship, willingness to make sacrifices, attention to details, and the business ability to make every dollar count. It also presupposes good health for the man, and, if he undertakes the raising of live stock of any kind, freedom from disease among his stock. Furthermore, his family must not be so large that his living expenses will consume all he can make, unless his children are large enough to add materially to his income by their labor.

There are certain dangers against which the settler in southern California should take caution, such as the following:

1. Poor land. In places there is considerable alkali, and in other places land which is apparently fertile is underlaid with such coarse gravel that its productiveness is impaired.

2. Development of land beyond the possibility of the development of water. This danger is especially prevalent on the desert, although it is present in every region where the water supply is not determined. It is the greater now, because years of exceptional precipitation have caused a superabundant water supply.

3. Planting wrong crops. One man who made a failure on the North Lankershim irrigated farm tract was threshing lima beans when I talked to him. The yield in the dry climate of the San Fernando valley barely paid the cost of production, whereas he would have been sure of at least $100 an acre on the silty land and in the moist climate of the coast section of Orange or Ventura counties.

4. Inadequate market. Some failures may be accounted for by the fact that melons, tomatoes and other vegetables have been grown when and where they could not be sold to advantage. The promoters of the Van Nuys colony have provided against this to a degree by establishing a cooperative cannery at Van Nuys.

I did not encounter much complaint at the high price of land. As a usual thing, the price of land includes the price of a water right, which is recognized as having great value. It also includes the price of climate, scenery, both artificial and natural, and numerous other things that go to make life pleasant.

There is a general feeling that land will go higher and therefore is a good investment. The poor man realizes that it is a hard task for him to secure even five acres, but when he undertakes it, he keeps his courage up by visions of future returns of $1000 an acre from his orchard. There are well authenticated accounts of such returns in exceptional cases, even in recent years, and most of the small orchardists seem to think they know how to make their cases exceptional.

I distributed considerable literature of the State Commission on Colonization and Rural Credits and sought the opinions of many as to what the state should do to assist in the settlement of southern California. It was generally agreed that a law to prevent misrepresentation by real estate salesmen was greatly needed and that any agreement that a company should not be responsible for misrepresentations as to the quality of productiveness of land should be void.

An examination of a colonization project by the state to determine the nature of the soil, the water supply available, the crops to which the land would probably be most adapted, and perhaps an authoritative statement as to what had been realized from such crops under similar conditions elsewhere would meet with favor from many real estate men with whom I talked, if there could be reasonable assurance that such an examination would be conducted by experts and not by politicians.

I found a great deal of interest in the new federal rural credit law, but not enough familiarity with its provisions to enable any with whom I talked to give an opinion as to its effect. After I had explained its limitations, however, there was a general agreement that the state ought to do something further to make it possible for the man of limited means to secure and improve the land without carrying the burden of high interest and being harassed by constant fear of losing his place by failure to meet large payments or inability to renew a bank loan. Settlers, of course, were delighted with the Australian plan, but real estate men expressed the fear that if such a plan were tried in California the state would get a large number of settlers without thrift and industry, whose demands for help would increase with increased provisions for them. This was strongly urged by A. B. Miller, president of the Fontana Land Company, and Emil Firth, of Los Angeles, who were especially emphatic in favor of action by the state to prevent misrepresentation, and to extend aid to the right kind of poor men. Both these men, however, thought that a demonstration of the Australian plan by the state would be a valuable experiment, if it were conducted by the right kind of people.

I suggest the need of a bureau of information under the authority of the state, with branches in various large cities, so that authoritative information may be given prospective settlers, regarding the land available in various sections, and the conditions prevailing in each locality. Such a bureau would serve as a clearing house for the various chambers of commerce and other local promotion bodies and would be of great service in directing the landless man to the kind of land best suited to his resources and desires. The man of small means cannot spare the time or the money to make a thorough investigation, and he is often suspicious of chamber of commerce literature. Hence he must choose a location within a limited range, and often falls a victim of a glib salesman with a story of a "snap" that "must be sold at a sacrifice."

If the state is to enter upon a comprehensive land settlement and development policy, some attention should be given the matter of enforcing the fulfillment of contracts to plant and care for orchards for nonresidents. I saw a good many such orchards on my trip to southern California, and apparently there was no cause for complaint, but I know of cases where money was paid for several years by eastern investors in California orchards and vineyards in the expectation of coming to California eventually and enjoying returns from bearing trees or vines, but the work was improperly done, or not done at all, and the results were disappointing to the investors.

IV. A Study of Land Settlement in Wyoming.

During the past two years the Department of the Interior and the state of Wyoming have been carrying on a cooperative investigation to determine the irrigable area and the best means of development in the valley of Green River. A report of these investigations has recently been completed and the portion of this report which discusses policies is included in this Appendix.

To the Honorable Franklin K. Lane, Secretary of the Interior, and His Excellency, John B. Kendrick, Governor of Wyoming.

We, the members of the Board of Review, created under the provisions of a cooperative agreement, dated June 1st, 1915, entered into by the United States Reclamation Service and the State of Wyoming for the purpose of

1. Making a study of the irrigable lands and water resources of the Green River drainage in Wyoming; and

2. Formulating a policy to control the reservation and disposal of public lands, waters, reservoirs and power sites with the object of securing the greatest public benefit in their utilization;

Report that we have read and carefully considered the report prepared by John F. Richardson, Engineer, United States Reclamation Service, and H. A. True, Jr., Chief Engineer, Carey Act Department, Wyoming, and in addition have made a personal inspection of a considerable part of the lands embraced in this investigation; have examined the records of the Wyoming State Engineer's office; conferred with settlers and public authorities of the state, and submit herewith our conclusions and recommendations.

The report of Messrs. Richardson and True, referred to hereafter as the "cooperative report," indicates that large bodies of land in the Green River basin in Wyoming are now under irrigation, and that other and greatly larger bodies of potentially fertile land can be brought under irrigation and cultivation whenever the demand for additional lands justifies the investment necessary for their development. The cooperative report also shows that supplies of water, sufficient to irrigate the additional land referred to, may be developed by practicable works; also that large storage reservoirs, capable of compensating the lower Colorado River for depletions of its low water flow, occasioned by irrigation development in Green River basin, can be built at sites of recognized merit. * * * *

POLICIES THAT APPEAR DESIRABLE.

Output of staples to be increased.

Cattle, sheep and wool, the staples of this region, are in such demand by the nation that prices have become almost prohibitive. A state and national policy aimed to increase the output, both here and elsewhere, is justified under the circumstances.

Improvement of range.

The number of live stock which can be supported in this part of Wyoming and the quantity and value of meat and wool produced can be increased in two ways:

1. By increasing the area of irrigated land and the winter food supply for range stock. This would serve as an insurance against the heavy winter losses of range stock, which sometimes occur.

2. Placing the contiguous range country under such control as will prevent overstocking, give the native grasses a chance to reseed, and increase its range value. At present no individual seeks to preserve or increase the pasturage of the open range, because he has no assurance that he will benefit thereby. Security

of tenure and public regulation of use will, it is believed, result in great and long continued increase in the growth of grass on the range lands.

Irrigation development a public matter.

It has been shown, however, that the mere construction of reservoirs and canals cannot in itself lead to agricultural settlement commensurate with its cost, and that private enterprise is wholly unable to effect the development desired. It therefore follows that the development, if carried out, must be through the expenditure of public funds, for the public benefit, under methods and policies suited to the peculiar local conditions. These must necessarily include provision for the establishment of the settler of small means on a self-supporting basis.

Suggestions.

As a result of personal experience of this board in irrigation development in this and other countries, it is suggested that three new features be incorporated in the policies that will control development here. These are:

(*a*)—That the execution of all developments be under cooperative agreements between the federal and state authorities, the former to plan, construct and operate the works until paid for, the latter to undertake the settlement of the land and give financial aid and practical direction to settlers in making the land habitable and productive. This is suggested because both authorities have a vital interest in the outcome, and each is specially suited to carry out the part indicated.

(*b*)—That each development follow a definite and comprehensive plan carefully worked out in advance, in which each unit will constitute a distinct and self-contained entity, with adequate water supply, well balanced agricultural and grazing areas, carefully located town sites, and suitable public facilities.

(*c*)—That there be segregated with each irrigable area a certain area of public grazing land, satisfactory in character and adjacent to the irrigable area if possible. That the grazing area allotted each settler be sufficient to insure pasturage for a reasonable number of live stock. Its title should remain with the government and be used under regulations which will secure the highest beneficial use. The proportion of grazing to irrigable land should be determined by careful study, but is believed by this board to approximate ten to one.

State aided settlement.

The part suggested for execution by the state has not hitherto been made a part of any public enterprise in this country, but it has formed a leading part of the development policies in other countries under similar conditions. The need of such policy appears especially cogent in this region. One hundred and sixty acres of sagebrush land when provided with water are not an irrigated farm. To make them such requires an expenditure equal to, or greater than the cost of an average water right. Some method of financing this cost must be provided, if opportunities for a man of small means are to be afforded.

It will require heavy expenditure to provide water for any of the larger areas of bench land. This makes prompt settlement and cultivation desirable in order that the investment may be repaid as soon as possible. To insure such settlement, the controlling public authority should direct and assist in the building of houses and the clearing, levelling, ditching and otherwise permanently improving the land. Organized aid in this matter will enable material to be bought wholesale and the work done at cash prices. If to this be added oversight and direction in irrigation and cultivation and help in cooperative purchase of implements and live stock, there will be a saving in time and money to settlers and progress in cultivation which only those who have seen this system in operation can fully appreciate.

On the other hand, nothing can be more wasteful of both time and money than to leave each settler to work alone in doing the things which must precede his entering upon the productive cultivation of his farm. If, as is suggested, the state undertake the responsibility for establishing settlement along the lines indicated, the state should determine the qualifications a settler must have to justify the public authorities in accepting him as a financial risk.

The experience in other countries has shown that with the following qualifications the percentage of failures is so small as to entail no danger of loss. Settlers must be moral, frugal and industrious, and able to turn to the enterprise enough money to provide live stock and farming implements and make a cash payment of ten per cent on the house and other improvements. They should not be required to pay more than a low rate of interest, say five per cent, for the first five years, and should be given thirty to forty years time to complete payments on the amortized plan.

Settlement carefully planned.

If this development is carried out, it should be in accordance with a carefully prearranged plan. Each project will be a complete community, segregated from other settlements by the surrounding grazing land. Towns and schools should be located and the size of farms determined and fixed so as to meet the needs of all the classes required to make up a complete rural unit. The state of New South Wales, Australia, employed Mr. Griffin, a noted townsite expert of Chicago, to plan all the towns in the Murrumbridges districts. The state of Victoria, Australia, gives as much care to fixing the size and arrangement of farms, and the location and plans of towns, as to the design of irrigation works.

Farm Laborers.

In countries where land settlement has been carefully studied, a feature has been introduced of such social and industrial value that it is believed it should be adopted here. This was the provision of homes for farm laborers. One of the great needs of the American farm is reliable and efficient labor. One of the principal reasons why it is so scarce is that provision is seldom made to give faithful men a satisfactory position in the community or a chance to bring up a family under the right conditions. To correct this, the Australian states have dotted their irrigation districts with from two to five acre homesteads on which they built comfortable houses. These homesteads, together with the houses, were then sold to desirable farm laborers on a time payment plan. This enables the laborer to have a cow, pigs and poultry, to grow his own fruit and vegetables, and thus save a large part of his wages. It gives healthful employment to young children, and makes them self-respecting members of society. It is therefore suggested that the plan for these settlements include a suitable number of ten and twenty-acre homes for farm laborers.

Sizes of units.

The size of the principal farm units should be gauged to meet the needs of settlers of different sized families and varying capital, the aim being to have them large enough to give a living income and furnish home employment to all. It is suggested that in this locality holdings of a larger size than ordinarily are adopted for irrigation projects be considered, with a maximum of 320 acres of irrigable land.

INTERSTATE WATER RIGHTS AND EQUITIES.

Relations of Green to Colorado River.

Green River is the head of the Colorado River system and is therefore a part of an interstate and international water supply. According to the cooperative report the portion of the Green River in Wyoming contributes only 14 per cent of the total flow of the Colorado. Practically the only localities where existing projects could be injuriously affected by diversions in Wyoming are along the lower Colorado in Arizona, California and New Mexico, and 86 per cent of the water supply of those localities comes from other parts of the river system than Green River.

Return flows of Green River.

As has been shown above, the water rights of Wyoming describe something over 900,000 acres as irrigated or susceptible of being irrigated. Hay and grain are the principal crops in Wyoming and the irrigation period comes early and is unusually short, beginning about May 1st and practically ending August 1st, when harvesting begins. The gross duty of water is given in the cooperative report as varying from one to two acre feet for each acre irrigated. Assuming 1.5 acre feet of water per acre of land as the average, there would be a total diversion of 1,350,000 acre feet during the irrigation period. Only a portion of this water would be lost to users below. Much of the irrigated land in Wyoming lies in narrow strips bordering the streams. Often slopes are steep and the land is underlaid with porous subsoil resulting in a quick return to the streams of a large portion of the water used. Probably not less than one-half of the water now diverted so returns. This board believes it a safe assumption, well fortified by known results elsewhere, that when 900,000 acres are watered at least one-third of the water diverted, or over 400,000 acre feet, will return to the stream and be available for use on the lower river.

* * * * * * *

CONCLUSIONS.

Immediate future development must primarily be the reclamation and settlement of the choice selection of bench lands. Viewed in the light of present economic and industrial conditions in the district considered, these are the lands whose reclamation appears most feasible from a commercial standpoint.

Ultimate future development cannot be more than mere conjecture at this time. Progress will march hand in hand with development. Successful rural settlement will bring new social standards, and in industrial enterprises governed by developed and natural resources will find foothold. Costly imports of feed, so essential to the live stock industry of this district, will be reduced to a minimum. A new standard of prices and costs will inevitably result and bring forth in a new light the possibility and feasibility of future reclamation and development.

The result of every possible development in Wyoming will not be detrimental to the present irrigators below. On the contrary, it will tend to lessen the flood period of the lower Colorado River, and augment the normal flow, when irrigation demands are almost at a maximum.

The use of water along the lower Colorado, is combined with a long irrigation period and a low duty of water. In Wyoming its use is confined to a short, early period, with a correspondingly high duty.

In comparing the relative value of water, its influence on the surrounding land must be considered. Along the lower Colorado the value is generally confined to the land actually irrigated. In Wyoming, on the other hand, the irrigated land has direct influence on, and greatly enhances the value of, the adjacent arid grazing land. The average value of an acre foot of water in the Green River basin of Wyoming is at least as great as anywhere along the Colorado River system.

Unaided settlement on irrigated bench lands in this region has been a practical failure despite low construction costs and favorable physical conditions generally surrounding projects. Better results in the future, under existing methods, cannot be expected.

There are important reasons for carrying out this development as a public enterprise.

RECOMMENDATIONS.

We recommend—

First: That this development be undertaken by federal and state authorities in cooperation. To accomplish this, we further urge the passage of appropriate legislation, both by congress and state.

Second: That the federal government construct and operate the irrigation systems under the provisions of the United States reclamation act.

Third: That the state direct the subdivision, sale and settlement of the land, inaugurating a system of financial aid and practical advice to the settlers, including loans for essential farm improvements at low rates of interest with long-time amortized repayments.

Fourth: That the whole development be planned in advance so as to insure everything required for complete and harmonious community life; including the provisions of homes for farm laborers, farm units of varying sizes, and plans for towns, roads and schools.

Fifth: That, to the irrigable area of each project, there be joined a continuous area of public grazing land in the ratio of about ten acres of grazing land to one acre of irrigated land. That settlers be given the use of this grazing land on conditions fixed by the federal or state authorities.

Sixth: That the first development undertaken be a unit of approximately fifty thousand acres, to be selected from the best areas of bench lands, after careful and detailed examination.

Respectfully submitted.

ELWOOD MEAD.
E. G. HOPSON.
J. B. TRUE.